# MASSACHUSETTS

# AGRICULTURAL JOURNAL.

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## INTRODUCTORY REMARKS.

The Trustees of the Massachusetts Society for promoting Agriculture owe, perhaps, some explanation to the public for the suspension of the publication, which they have, for more than thirty years past been in the practice of publishing, as well as for their resuming it upon this occasion. When they commenced their publications in 1792, there had been no attempt, in this country, o r in Europe, with the exception of the Bath and West of England Journal, and one or two others, to enlarge the boundaries of agricultural information through the press. If improvements, or discoveries were made, either in the tools or implements of agriculture, in the mode of tillage, in the rotation of crops, in the introduction of new plants, or in the economy of manures, they were left to make their way into the world, as all improvements had done before the discovery of the art of printing, from neighbour to neighbour. A county of Great Britain might be, and often was in possession of an improved mode of tillage, or of dairy management, half a century before it was known or adopted in any other county, at not one hundred miles distance. This truth is fully established by the surveys of Marshall, and Young. Thus particular spots were famous for their butter or their cheese; others for their fine breed of cattle for the butcher; others for their wise rotation of crops; others for their extensive use of lime and marl; while, in other portions of the

country, these improvements were absolutely unknown. The same remark was applicable to this country ; and when the first attempts were made to treat the subject of agriculture as one to be taught by means of the press, they were received with great coldness; the publications were seldom purchased, nor could they have obtained a circulation, but for the aid of the legislature, who, paying for the expense of printing, received in return a distribution of the numbers as they appeared. There seemed to have been a general opinion that agriculture could not be *improved*, though it might be *injured*, by books; that there was something peculiar in its processes, which could only be communicable by tradition; that every farmer was born to be an adept in his art, though that art involves, in its operations, principles as extensive and as difficult to comprehend as any human employment whatever. This feeling or prejudice is not yet eradicated,—it is only shaken ; and many a self-taught farmer sneers, with contempt, at any attempt to show that he does not manage his land, or his cattle, in the best possible way.

The Trustees of this society persevered, however, in collecting such facts, and elucidating such principles in relation to every branch of agriculture and of horticulture, as they thought might serve to promote its improvement, in spite of all these discouragements. They did not admit the anomalous and absurd opinion, that agriculture had arrived at its highest state of improvement. They could not believe, that while the arts of navigation and of manufactures were making a progress in half a century greater than they had made in ten preceding centuries, the agricultural art alone had arrived at its maximum—its highest degree of merit. They looked to the state of European culture, and they found it very far advanced above our own. They found, that the rent of cultivated lands was often far greater than the price of the soil itself in this country. Although much of this difference might be attributed to the dense population of those countries, and the greater demand for the products of agricultural industry, still there remained much

unexplained in the superior produce of European farms, when compared with our own. It was well known, that farmers in England could take a farm of 500 acres at 2500 dollars rent, and pay taxes and tithes to an amount equal to that rent, and yet grow rich.

To be sure, capital was more abundant and obtained at a low rate of interest, and labour was 50 per cent. cheaper; but still these causes would not sufficiently account for the fact, that new and fertile lands in this country, whose first cost did not exceed the rent and taxes paid annually by the British farmer, should not yield any profit over and above the labour bestowed upon them. In the inquiry as to these singular results, it was at once perceived, that the extraordinary products of British farming industry could be traced distinctly to improved implements of husbandry—to improved modes of tillage—to the adoption of regular and systematic rotation of crops—to increased attention and care in the improvement of every variety of the breeds of domestic animals—to the introduction of new plants for the support of these animals—to the improvement of the qualities and kinds of their fruit trees. Impressed with the opinion, that the introduction of these improvements into our country would be of inestimable value, the Trustees of this Society persevered for 20 years in stating, in their publications, such improvements as the British journals of agriculture afforded them the means of furnishing to the public. They are not disposed to magnify the effect of their efforts. If they were not as great as their wishes anticipated, and as their laborious exertions authorized them to expect, may we not be permitted to say, that one cause of their limited success was, that they sowed their seed on stony and ill prepared ground. Could it reasonably be expected, that farmers with small capitals, and often in debt, without preparatory education, a race of men, proverbially cool and cautious, and very properly so, would be as prompt to admit, and to act upon, a new system of agriculture as a manufacturer, who, with greater natural skill, and much more enterprize, has been able, in a short period of twenty

years, to rival, and in some respects surpass the ablest artizans of Europe? No. It was not to be expected—nay more, it was never expected. The history of agriculture forbad any such hope. Go back for 2000 years, and you find that Virgil and Columela were in possession of most of the facts and principles which are known and acted upon at this day in the art of agriculture. It is an art, which has been more stationary than any other; and this is principally owing to the nature of the employment itself. It offers no sudden and great reward, like those resulting from opening new sources of commerce—and still less like those which are produced by new inventions in manufactures.

The discovery and application of the Steam-Engine, by Watt, effected a greater change in the profits of the manufacturing class, than could by any possibility be produced by any discovery whatever in the art of agriculture. There are, therefore, in the science of agriculture none of those splendid and attractive allurements, which call forth the highest faculties of the human intellect. And when from age to age a new thought has been struck out in agriculture, as it does not lead at once to sudden wealth, as the experiment must be slow in its operation, often failing from negligence, or the variation of seasons, and more especially as the class of men, who are invited to adopt a new discovery, are from their situation indisposed to take great risks in order to test the soundness of new propositions, the progress of agriculture must necessarily be very slow. Those who would wish to instruct, and improve our agriculture, must, of course, be content with a distant and remote fruit of their exertions. They must do more; they must fortify their minds against many captious objections—many declarations of even intelligent men, that their projects have failed. It is, indeed, often a very severe trial of patience. We find that some men's minds are so constituted, that they derive a great and unfeigned (I have no doubt) pleasure in holding up to ridicule a new project in agriculture; forgetting that though it may be true, that one or more propositions of

improvement may fail of being as useful as the projectors imagined, yet that this has been the fate of every other art and science. Indeed it seems to be the law, or rule of all human inventions and improvements, instead of being an exception in the case of agriculture, that all first attempts shall be imperfect. The Steam-Engine, Whitney's Cotton Gin, and a thousand other discoveries, show that time is necessary to give to them their fullest developement. We are not entitled to expect such splendid discoveries in agriculture. It is not, in its very nature, susceptible of it. But have not our publications, feeble as they are, imperfect as we feel that they have been, produced much good? This is a question upon which, we are sensible, many persons will differ. Yet may we ask, upon what rational ground can those who doubt the utility of the discussions on agricultural subjects repose their objections? Is it useful to give to the mechanic and agricultural classes, lectures on the principles of their respective arts, by means of Lyceums, by oral discourses, which are soon forgotten—and can it be useless to place before them the improvements of Europe in the important science of agriculture? No. The spirit of the age has settled this question. It has decided, that there is no danger on the score of the excess of knowledge, but from the defect of it.

Let us refer to facts. Compare the state of agriculture in this country in 1792 with its present condition. Look at the returns made to the Massachusetts Agricultural Society, forty years since, in reply to the questions which they circulated throughout this State, and the numerous reports made to the same society within the last five years. A fair comparison will convince any man that agriculture has made nearly as rapid improvements as any other branch of domestic industry. Will it be denied, that these improvements have been due in some considerable proportion to the suggestions and information conveyed to the public through the publications of this society? Have not many valuable roots and grasses been introduced into notice by means of the press, which would probably

have been either unknown, or confined to a very limited circle? How much has horticulture been advanced, and especially fruits, by the rapid dissemination of intelligence? Take one example—when, in 1823, Mr. Knight sent his first present of new pears, the letter and list which accompanied it were published in the Massachusetts Agricultural Repository. Within twelve months, applications were made for these fruits, and scions were actually distributed from the lower part of Maine to Cincinnati in Ohio. If there had been no publication devoted to agriculture, it would have been possible that fifty years might have elapsed before these fruits would have reached the State of Ohio. But even if the positive direct benefit resulting from Agricultural publications could not be established, few persons will be disposed to question their salutary effects in arousing the curiosity, and exciting the intellectual powers of the agricultural population. A most remarkable change has been apparent in this respect.—While it was very difficult to procure communications to fill up two semi-annual journals, ten years since—three or four agricultural newspapers, with extensive subscriptions and circulation, are at this moment fully supplied with original matter; and what is most encouraging, far the greater mass of articles are from the pens of real cultivators.

It was owing to the rapidly increasing circulation and growing value of these newspapers, that the Trustees of the Massachusetts Agricultural Society have been induced to suspend, for some time past, their publications. The newspapers seemed to them to supersede the necessity of their exertions, while their publications might seem in some degree to check the subscriptions and circulation of these more useful means of instruction. The Trustees were, however, induced to issue the present number, because the length of the reports of their committees, and the importance of that upon farms particularly, seemed to require this change. They could hardly expect that the New England Farmer should devote so much of its columns to the reports of any single society; and it moreover seemed to the Trustees to be expedient, that their reports

should be presented in such a form, as that those, who might wish to preserve them, might add them to the former volumes of their Journal.

The Trustees of the Massachusetts Society for promoting Agriculture deem it proper to explain the reasons, which induced them to suspend their cattle shows the last year, and the resolution to resume it the present season. The success which had attended the cattle shows and ploughing matches in Great Britain, the ardour and activity which they seem to have excited in that kingdom, were sufficient motives for the introduction of them in this country. It was admitted in Great Britain, that these shows had materially assisted in the improvement of their breeds of cattle. The ploughing matches, it was also thought, had tended to the amelioration of the implements of agriculture. In this state of our information, the Berkshire Agricultural Society introduced the practice of public cattle shows in Massachusetts. To their example, we feel ourselves bound to state, we were chiefly indebted for the trial, which we made on this plan. The European practice and success was familiar to us, before the Berkshire society made the first American experiment on the subject. Their success seemed to afford strong hopes, that the agricultural population might be excited, as easily as the mercantile and manufacturing classes, to competition, to strenuous exertion, to rivalship. With these examples before them, the Massachusetts Agricultural Society instituted a regular series of cattle shows, and ploughing matches.

The success of these shows far exceeded the hopes of their promoters. All classes of farmers were aroused, and induced to produce their best animals, for premium and exhibition, and the ploughing matches brought forward the most skilful and correct, and careful, and judicious practical farmers. Shall we be thought to be extravagant, if we should state that the following effects resulted as an almost inevitable consequence of these public exhibitions?

They gave, at once, to the agricultural classes, a sense of their importance, and of the interest which the public felt in

their success. For two hundred years, they had been neglected as below the notice, or beyond the sphere of the more active members of society. The Legislature had cherished, by acts of incorporation, by special privileges, every other branch of industry; but the farmer was overlooked as either below, or above, or beyond their notice.

The first trial, and all subsequent trials of the capability of the farmers, of improvement, and of spirit, energy, and rivalship in their art, fully proved that they were as susceptible of the effects of encouragement, and of public countenance, as any other classes of society whatever.

These exhibitions further proved, that the foreign animals of improved races received the marked attention of all the visitors of the shows, notwithstanding all the previous national prejudices on this subject. It did not depend in any degree upon the opinions of the committees appointed to award the premiums; but the question was settled by public opinion, by the affluence of crowds, who surrounded the imported and improved animals. There must have been some marked distinction, which could thus draw the public attention to any particular animal.

It is not our purpose, in this short notice, to enter into the question whether the introduction of these improved races is or is not a public benefit. We shall be ready to enter into this question when we shall hear, that every merino sheep has been slaughtered, and every owner of a half-breed improved short-horned animal has discarded him.

We do most fearlessly claim the merit of having first encouraged the introduction of these animals, and of their extension through the country.

But, having set the example, encouraged the farmers by these exhibitions, and seeing societies established throughout the State, we doubted, whether any future exhibitions at Brighton would any longer be of use. The fatigue, trouble, and expense to the Trustees, and the diminution of their funds, would of course lead them to discontinue them, as soon as any doubts were suggested as to their utility. Such doubts met them from

many sources, and they suspended them. In obedience to these suggestions, and in the hope that the suspension of their publick shows would have the tendency to increase the exhibitions of other county societies, which had sprung up in every part of the State, they offered no premiums for the last year. The inhabitants of *Brighton particularly* felt this suspension to be an injury to them. They had made great personal sacrifices to promote the cattle shows. The inhabitants of the County of Norfolk were also deprived of the benefits of competition. They could neither afford to go to Concord, Worcester, nor Taunton. But this was not the worst effect of the suspension. Instead of aiding the other societies, and increasing the interest in their shows, it is alleged and believed, that the suspension of the Brighton Cattle Show has, in fact, checked the zeal of the farmers, and raisers of cattle. It is believed, that the show at Worcester, the most favorably situated of any in the State, was rather injured than promoted by the suspension, last year, of the Cattle Show at Brighton. It does not appear to the Trustees of the Central Society extraordinary, that such an effect should have been produced. The great market for cattle raised in Massachusetts is and will probably forever be that of Boston. The mart or place of sale for this market has been for fifty years the town of Brighton. It is useless to explain the causes of this preference: it is sufficient to say that, like Smithfield in London, it has acquired this preference. It is central—equally convenient to the graziers, and to the *numerous packers* of beef and pork, and market butchers of the great market-providing towns in Middlesex and Norfolk. As the fatted cattle and sheep, as well as the store or lean cattle must come there for a market, it is more convenient to them to attend a cattle show in that place than in any interior county. Show Cattle—extraordinary animals, will be offered in greater numbers at Worcester and Concord, if their owners have the additional motive and inducement of being able to offer the same animals at Brighton. The expense is not thereby increased, but the chances of success; and the re-

wards are vastly enhanced. These are the motives for resuming the Cattle Show at Brighton, suspended for one year in order to see the effect of such suspension. The great sums recently expended in Brighton, to accommodate the graziers and the visiters of the cattle shows, furnish a further and sufficient motive for this apparently hasty change in the measures of the Trustees.

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# LIST OF OFFICERS

OF THE

MASSACHUSETTSSOCIETY FOR PROMOTING AGRICULTURE,

*Elected June*, 1831.

His Honor THOMAS L. WINTHROP, *President*,
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Hon. JOHN C. GRAY.

# OFFICIAL REPORTS

OF THE COMMITTEES OF THE

# MASSACHUSETTS AGRICULTURAL SOCIETY,

AS ANNOUNCED DEC. 7, 1831.

## EXHIBITION OF BUTTER AND CHEESE.

The Committee on Butter and Cheese, consisting of E. Hersy Derby, Gorham Parsons, Esqrs. (assisted by Hon. Peter C. Brooks, in the place of Benjamin Guild, Esq. prevented, by sickness, from attending), report as follows:

That they are highly gratified with this year's exhibition.—in both articles it greatly exceeded that of the last. For Butter there were the following entries, viz.—

| *No.* | *By whom entered.* | *Where made.* | *Wt.* | *Price per lb.* | *Remarks.* |
|---|---|---|---|---|---|
| 1 | Sanford Howard, | Hallowell, Me. | 310 | 17 to 20 | 6 firkins. |
| 3 | Jude Kimball, | Lyndon, Vt. | | 18 to 19 | 10 do. |
| 2 | Robert Gilson, | Ryegate, Vt. | 1400 | 16 to 17 | 10 do. |
| 4 | Thomas Sparhawk, | Walpole, N. H. | 350 | | 7 do. |
| 5 | Ichabod Everett, | Billerica, Mass. | 131 | | 3 do. |
| 6 | Alexander M'Kee, | " " | | | |
| 7 | Henry Sprague, | Boylston Farm, | 1200 | 25 to 35 | 20 do.—Took 2d premium, $50. |
| 8 | " " | Princeton, Mass. | | | |
| 9 | Ziba Johnson, | Peacham, Vt. | | | |
| 10 | Wm. Warden, Jr. | Barnet, Vt. | | 16 | 7 do |
| 11 | Wm. Bachop, | " " | 2000 | 18 to 20 | 40 do. |
| 12 | Wm. Shearer, | " " | | 17 | 7 do. |
| 13 | Jacob Wilson, | Spencer, Mass. | 100 | | 2 tubs. |
| 14 | Calvin French, | Needham, Mass. | | | |
| 15 | Wm. Eager, | Northborough, Mass. | 620 | 17 to 20 | 10 firkins. |
| 16 | Jacob Osgood, | Andover, Mass. | | | |
| 17 | Moses R. Bouve, | Barnet, Vt. | | 16 to 16½ | 11 do. |
| 18 | Silas Bemis, | Barre, Mass. | 310 | | 7 do. |
| 19 | Lydia Page, | Hardwick, Mass. | 335 | | 3 do.—Took 6th premium, $10. |
| 20 | Sampson Pierce, | New Braintree, Mass. | | | 2 do. |
| 21 | Richard Hildreth, | Sterling, Mass. | | | 2 tubs. |
| 22 | Seth Davenport, | Mendon, Mass. | 325 | | 7 firkins.—Took 3d premium, $30. |
| 23 | Luther Chamberlain, | Westborough, Mass. | 553 | 32 to 37 | 7 do.—Took 1st premium, $100. |
| 24 | Charles Lee, | Barre, Mass. | 400 | 23 | 7 kegs. |
| 25 | John Prince, | Merino Island, N. H. | 316 | | 7 firkins. |
| 26 | Mary Noyes, | Byefield, Mass. | 150 | | |
| 27 | Peter Thacher, | Attleborough, Mass. | | | 2 pots. |
| 28 | Walter Bigelow, | Worcester, Mass. | 310 | 20 to 21 | 6 firkins. |
| 29 | Mary Clark, | Northampton, Mass. | | | |
| 30 | Jonathan Waite, | Whately, Mass. | | | |
| 31 | B. & T. Lynde, | Guilford, Vt. | 550 | | 7 kegs. |
| 32 | Charles Cutter, | Weston, Mass. | 131 | | 4 pots and 2 boxes. |
| 33 | William Spring, | " " | 106 | | 5 pots and 1 box. |
| 34 | Fitch Winchester, | Southborough, Mass. | 368 | | 8 kegs. |
| 35 | Cloud Harvey, | Barnet, Vt. | 600 | 20 to 22 | 26 firkins. |
| 36 | William Gilkerson, | " " | 800 | | 5 do. |

| | | | | | |
|---|---|---|---|---|---|
| 37 | Samuel Sawyer, 2d, | Sterling, Mass. | 108 | | 4 kegs.—Took 4th premium, $20. |
| 38 | Oliver Sampson, | Weston, Mass. | 800 | | 2 tubs. |
| 39 | John Gilkerson, | Barnet, Vt. | 500 | | 5 firkins. |
| 40 | Nahum Hardy, | Waltham, Mass | 70 | | 2 do. |
| 41 | Thomas Watts, | Peacham, Vt. | | 15¾ to 16½ | 7 do. |
| 42 | Alanson Stevenson, | " " | | 15 | 7 do. |
| 43 | Calvin French, | Boston, | | | |
| 44 | Nathan Cushing, | Woodstock, Vt. | 216 | 22 | 3 tubs. |
| 45 | Gershom Cobb, | " " | 272 | 26 to 28 | 8 firkins. |
| 46 | Stephen Metcalf, | Croydon, N. H. | 400 | | 6 do. |
| 47 | Gabriel Parker, | Southborough, Mass. | 450 | | 4 do.—Took 5th premium, $15. |
| 48 | Peter Harwood, | Hardwick, Mass. | 312 | | 6 do. |
| 49 | Abijah Fisher, | Dedham, Mass. | 125 | 25 | 5 pots and 1 box. |
| 50 | Oliver Johnson, | Sterling, Mass. | 68 | | |
| 51 | Jonathan Dudley, | Charlton, Mass. | 450 | | 6 firkins. |
| 52 | Levi Woodward, | Dresden, Me. | 260 | | 5 do. |
| 53 | Gershom Cobb, | Pembroke, Mass. | | | |
| 54 | A. J. Allen, | Boston, | 100 | | 3 kegs. |

In addition to which there were a great many applications from individuals, who, not having complied with the regulations of the Society, could not be allowed to come in competition for the premiums.

For Cheese there were the following entries, viz.—1 from Maine, 1 from New Hampshire, 2 from Vermont, and 14 from Massachusetts.

ENTRIES OF CHEESE.

| | | | | | |
|---|---|---|---|---|---|
| 55 | Henry Sprague, | Boylston Farm, Princeton, Mass. | 527 | 8 | New. |
| 56 | Jude Kimball, | Lyndon, Vt. | | 8½ | New. |
| 57 | Jacob Wilson, | Spencer, Mass. | | 7½ to 9½ | Old. |
| 58 | Samuel S. Woods, | New Braintree, Mass. | 347 | 8¾ to 11 O.<br>8¾ to 9½ N. | |
| 59 | Elisha Matthews, | " " | | | Old and new.—Took 2d premium on old, $50. |
| 60 | Welcome Newell, | " " | | | |
| 61 | Daniel Hunter, | " " | | | |
| 62 | Ebenezer Tidd, | " " | | | Old.—Took 1st premium on old, $100. |
| 63 | Roswell Converse, | " " | | | New.—Took 1st premium on new, $50. |
| 64 | illiam Tufts, | " " | | | |
| 65 | ob Rainger, | " " | | | |
| 66 | Sampson Pierce, | " " | | | |
| 67 | B. & T. Lynde, | Guilford, Vt. | 650 | | |
| 68 | H. Brewer, | Framingham, Mass. | 654 | | Old and new. |
| 69 | David Lee, | Barre, Mass. | | | Took 2d premium on new, $30. |
| 70 | John Prince, | Roxbury, Mass. | 420 | | |

The quantity of Butter was extremely large, estimated by the Committee to be little short of thirty thousand pounds; the greater part of which was of a very superior quality, and put up in very fine order. Some of it was in lumps and balls, and arranged most fancifully in boxes, tubs and pots. The Committee feel constrained however to say, that although it appears beautiful to the eye, yet from their experience it is a mode they cannot recommend for Butter designed for winter consumption. They almost invariably found, that when a large surface was exposed to the influence of the atmosphere, it was more or less injured from that cause. They would in future recommend, that when Butter is not designed for immediate use, it should be packed in firkins or casks, by which a smaller surface will be exposed to the air.

There was a lot of Butter of four firkins, sent by Mrs. Mary Noyes, from the Fatherland Farm in Byfield, for exhibition only, the quality of which was thought excellent by the Committee.

The Cheese in quantity did not compare with the Butter, more particularly the old Cheese; but the most of it, both old and new, was of a very superiour quality.

The Committee have had a very arduous and responsible duty to perform. They were assisted in their decision by some of the most judicious persons that the city of Boston and its environs could furnish; they feel under great obligations to Edmund T. Hastings, Esq., Col. Thomas Davis, William Stickney, Grenville T. Winthrop, and Newhall A. Thompson, Esqrs.—the two last kindly officiated as Secretaries; also to Messrs. Warren, Barry, and Park, who tendered their services to the Committee for awarding premiums on Butter and Cheese, in selling the same, as expressed in the advertisement, free of charge. The Committee and their assistants devoted the whole of Tuesday, from early morn until dark, without a moment's intermission, to the examination, and have concluded to award the premiums as follows:—

ON BUTTER.

1st premium of $100 to Luther Chamberlain of Westborough, Mass., for entry No. 23.

2d ditto of $50 to Henry Sprague of Princeton, Mass., entry No. 7 and 8.

3d ditto of $30 to Seth Davenport of Mendon, Mass., for entry No. 22.

4th ditto of $20 to Samuel Sawyer, 2d, of Sterling, Mass., for entry No. 37.

5th ditto of $15 to Gabriel Parker of Southborough, Mass., for entry No. 47.

6th ditto of $10 to Mrs. Lydia Page of Hardwick, Mass., for entry No. 19.

ON CHEESE.

1st premium of $100 to Ebenezer Tidd of New Braintree, Mass., for old cheese.

2d ditto of $50 to John Matthews of New Braintree, Ms., for old cheese.

3d premium of $50 to Roswell Converse of New Braintree, Mass., for new cheese.

4th ditto of $30 to David Lee of Barre, Mass., for new cheese.

*The Premium Butter sold as follows :*

| | | | | | |
|---|---|---|---|---|---|
| 1st | premium | from | 32 to 37 | cents | per pound. |
| 2d | " | " | 25 to 35 | " | " |
| 3d | " | " | 26 to 27 | " | " |
| 4th | " | " | 26 | " | " |
| 5th | " | private sale. | | " | |
| 6th | " | 23 cts. per lb. | | | |

E. HERSY DERBY, *Chairman.*

*Boston, Dec. 7th*, 1831.

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## REPORT OF THE COMMITTEE ON VEGETABLE AND GRAIN CROPS.

The Committee of the Massachusetts Agricultural Society "On Vegetable and Grain Crops,"—respectfully Report :

1. That Payson Williams, Esq., of Fitchburg, in the County of Worcester, is entitled to the premium of $20 on his grea crop of potatoes, being 584 bushels on one acre.

2. That Mr. Joseph Perkins of Newbury, in the County of Essex, be paid $20, being the premium on the greatest crop of onions.—His was 646½ bushels on the acre,—reckoning 52½ lbs. to the bushel.

3. That Mr. John Wilson of Deerfield, in the County of Franklin is entitled to the premium of $20 for his crop of winter wheat, 34½ bushels to the acre.

4. That Mr. Henry Sprague of Princeton, in the County of Worcester,—living on the farm of John Lane Boylston, Esq.,—be paid $10, as *a gratuity* for his large crop of Indian corn, stated to be 109 bushels on an acre. The premium proposed on this article was $20, and by Mr. Sprague's mode of *estimating* his crop, it exceeded the quantity required. But as he omitted to comply with one condition, which is deemed important,—that of *weighing* the corn and cob, in case of its not being shelled,—the Committee, while they are unwilling to pass over the claim of Mr. Sprague entirely, have thought they could not with propriety recommend the payment of the whole premium.

The Committee, thinking that the manner of raising these crops will be best seen by the letters of the claimants, recommend that they be published as part of this Report.

The Committee regret to state that, although thirty-one premiums have been offered by the Trustees, on crops deemed the most deserving the attention of farmers, in our climate, only four claims have been presented. In former years not less than an acre was required to be planted, in many cases, in order to put in for a premium. It was thought better in 1831 not to insist on an acre, thinking that possibly half an acre might make the trials more general. The claims, however, have been fewer than ever. The Committee are aware that for certain articles, such as potatoes, mangel wurtzel, turnips, &c. the season has not been as favourable as usual; yet as it has not been such as to cause a failure in any thing, and as in many things the crop has been abundant, they are disappointed that applications should not have been much more numerous. They

are convinced it might have been done, if *the inclination* to furnish out claims had not been wanting. The Committee can only hope that, should the Trustees repeat their invitation to our industrious and enterprising husbandmen, much more attention will be paid to it than has hitherto been shown. The single circumstance that the bounty of the Government has been put into the hands of agricultural societies, with a view to encourage and improve our agriculture, would seem sufficient to draw attention from our intelligent farmers. So much was said the last year, on this subject, in the report of the Trustees, that the Committee forbear to enlarge here, and would merely request a reference to the remarks then made, and to the instances of fine crops there set forth.

P. C. Brooks.
*By order of the Committee.*

[To the Committee on Agricultural Products of the Massachusetts Agricultural Society.]

Gentlemen—In presenting my claim for the premium offered by the Trustees of the Massachusetts Agricultural Society, for the largest quantity of potatoes grown on one acre, I will state, that the field cultivated by me the present season for that purpose, is a deep yellow loam, somewhat rocky—its situation uneven, with rather an eastern aspect; and has been for the last seven years used as mowing land. The sward was broken last autumn,—last May cross-ploughed, harrowed, and eighteen cords of unfermented sheep manure evenly spread, and immediately ploughed in. The sods again harrowed down and the field marked out three feet distant for the seed, which was placed eighteen inches apart in the furrow. The kinds of seed used were the Blues, three fourths—the other fourth of the Reds of La Plata, the Chenangos, and a variety of the Whites produced from the ball four years since on the farm of Maj. Benjamin P. Williams, of Roxbury. The quality of this potatoe is excellent, also yielding a large crop. I beg leave to name this variety *the Canterbury Whites.*

The planting was finished the 3d of June. When the vines were two inches above ground, the horse-plough passed twice between each row, throwing the earth from the plants, which were slightly dressed with the hoe. When the vines were eight inches high, and in the bud, the ridges between the rows were split, the plough throwing one half to each row, the hoe following to dress the vines for the second and last time. In three or four weeks the vines completely covered the ground, thereby preventing the weeds from vegetating. The digging commenced the 15th October, and finished the 21st, when by careful measurement we found five hundred and eighty-four bushels from the acre, and of these, three hundred and nineteen bushels were the product of the best half acre. In order to be understood, I will here state that in the item of the expenses, the manure, I place but about one third to the potatoe crop, deeming this a fair average of its exhaustion, the residue to be charged to after crops. The quantity of seed used was about eighty bushels. The reason for using so large an amount of seed, was the low price (12 cents) in our market, which induced me to plant the potatoe without cutting, as the saving by cutting, wouldnot pay the labour. My practice is, invariably, to cull the largest potatoes for seed. There is about sixty young apple trees growing on the field. Had the season been congenial for the culture of the potatoe, I should probably have had 700 bushels to the acre.

Yours, &c. PAYSON WILLIAMS.

FITCHBURG, October 21st, 1831.

I, Philip F. Cowdin, sworn surveyor of the town of Fitchburg, at the request of Payson Williams, did this day measure for him a certain lot of land on which potatoes were grown the present season, and found the same to be one acre, and no more. P. F. COWDIN.

I also certify, as above, that I measured one half of said acre to bounds set by those who measured the product, it being as I

understood the half acre from which was obtained the greatest yield. P. F. Cowdin.

I hereby certify, that I assisted, in the month of October, 1831, to harvest the potatoes grown on one acre of land (the same measured by P. F. Cowdin,) owned by Payson Williams, and by careful measurement found the same to be five hundred and eighty-four bushels. The number of bushels harvested from the best half of said acre, were three hundred and nineteen bushels. The kind of potatoes on this half acre were the Blues, Reds, Whites, and Chenango—on the half acre, which yielded two hundred and sixty-five bushels, they were wholly of the Blue kind. Elijah S. Carter.

*Worcester, ss. October 21st*, 1831.—Then the above named Elijah S. Carter made oath to the truth of the above Certificate by him subscribed.

Before me, David Brigham, *Justice of the Peace.*

EXPENSES OF CROP.

| | |
|---|---|
| Breaking the sward, - - - - - | $5,00 |
| Two ploughings, - - - - - - | 5,00 |
| Two harrowings, - - - - - - | 1,50 |
| Marking out and planting, - - - | 6,50 |
| Twice hoeing the field, - - - - | 6,00 |
| Harvesting the crop, - - - - | 18,00 |
| Manure exhausted by the crop, - - - | 15,00 |
| 80 bushels seed, at 12 cts. (usually 25 cents at this season of the year,) - - - | 9,60 |
| | $66,60 |

It will be seen, that after deducting all expenses except the taxes and the interest on the land, the profit from one acre will be, (allowing the price 20 cts. per bushel,) fifty dollars and 20 cents. In view of such result, can any farmer, either book, or practical, for a moment remain unconvinced of the inutility of planting more than can be well manured? for the expenses

will be the same, except in the cost of manure, harvesting, and transporting a *large* instead of a *small* crop. W.

NEWBURY, Nov. 19, 1831.

[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN—In conformity to the rules and regulations of your society, I send you a statement of one acre of onions, the growth of 1831, the quality of the soil varies from a light yellow, to a dark loam,and has been cultivated with onions several years. The 20th of November last there were four cords of barn manure ploughed in, in ridges. The 28th of April following, the land was ploughed, and harrowed, and three pounds of seed sown in drills, fourteen inches apart. The first hoeing and weeding was done June 10th, which cost six days labour. The last weeding was done July 7th, which cost six days more. They were harvested the first of October; and nine thousand and seven hundred bunches have been bunched; which, estimating 15 bunches to the bushel, each bunch weighing 3½ lbs., make six hundred and forty-six and a half bushels.

JOSEPH PERKINS.

This may certify, that I assisted in cultivating and harvesting and measuring said crop of onions, which statement is correct. JOSEPH PERKINS, JR.

This may certify, that at the request of Joeseph Perkins, I measured one acre of land, and marked it off, which ground was covered with onions. TRISTRAM LITTLE.

*Essex, ss. November* 28, 1831.—Then the above mentioned Joseph Perkins, and Joseph Perkins, Jr. personally appeared, and made oaths to the above certificates by them subscribed.

Before me, SILAS MOODY, *Justice of Peace.*

[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN—I have raised the present year, a very fair crop of *winter wheat,* which I take the liberty to report to you

for premium; if it should not prove to be the largest crop in the State, it certainly is a very good one for our old lands on Connecticut river, that have been cultivated for a century or more.

The land on which this wheat grew, is a deep black loam, and is flowed by the Connecticut, in the very highest floods. It was planted in 1828, with Indian corn after grass; in 1829, broom corn grew on the same land, which was manured in the hill. Both were good crops. In harvesting the broom corn, the stalks were cut by the roots, and laid between the rows, and a furrow turned on them. In the Spring of 1830, I cross-ploughed the land; the stalks had then become so tender, that they would separate at the joints: after harrowing it, I spread on about ten ox cart loads of manure, of different kinds, to an acre, then ploughed and harrowed again, and about the last of May, sowed it to hemp, at the rate of about two bushels to the acre: I then harrowed and rolled it.—7 acres and 93 rods produced 17 tons, 11 cwt. 2 qrs. 13 lbs. of dry stem, gross weight. After the crop of hemp was taken from the ground, I ploughed and harrowed the land, and in the fore part of October sowed about 3½ acres to wheat; the remainder I sowed to rye, and harrowed and rolled all, at the same time: the rye did not produce more than half as much to the acre as the wheat. The wheat sown was raised on my farm the year before on new land: it then produced well; but some of it was very badly grown in the field, so much so, that the wheat which I sowed was not fit to grind: this I mention to show that grain which has been sprouted so badly as to have the heads look green, will vegetate again, as was the case with some of this. It is a bearded wheat, brought from the state of New York two years before, and is probably the white flint. I sowed at the rate of about 1½ bushels to the acre: it was pretty thick, straw bright, mostly lodged, in different directions, as by a whirlwind. When reaping, I had one acre measured off in a parallelogram across the piece, which was kept by itself and threshed out in the latter part of August; which acre produced *thirty-four*

*bushels* and *two quarts*, and weighed, by several trials, from 59½ to 60 lbs. to the bushel. All which is submitted.

JOHN WILSON.

DEERFIELD, OCT. 22d, 1831.

*Franklin, ss. October 24th*, 1831.—Then John Wilson above named, made solemn oath, that the foregoing statement by him subscribed is true.

Before me, RUFUS SARTIN, *Justice of the Peace.*

I hereby certify, that I measured the piece of land above mentioned, and that there was one acre, and no more.

FREDERICK WILSON.

OCTOBER 25, 1831.

*Franklin, ss. November 2*, 1831.—Then the above named Frederick Wilson made oath, that the above certificate by him subscribed was true.

Before me, AARON ARMS, *Justice of the Peace.*

I hereby certify, that I helped reap, cart and thresh, and measured up the wheat which grew on the acre of land aforesaid, and that there was *thirty-four* bushels and *two quarts* of the same.

ERASTUS STREETER.

*Franklin, ss. October 25th*, 1831.—Personally appeared Erastus Streeter, and made oath, that the above certificate by him subscribed is true.

Before me, HOOKER LEAVITT, *Justice of the Peace.*

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*A statement of particulars in relation to a field of Corn cultivated and raised by Henry Sprague, of Princeton, County of Worcester, in* 1831, *on the Farm of John Lane Boylston, Esq.*

The field on which said corn was raised, contains one acre and one hundred and thirty-six rods by admeasurement, as will appear by the plan and certificate of Joseph Mason, Surveyor, which is hereunto annexed.

The land in the spring of 1831 was grass, or sward ground, and has not been ploughed for thirty years previous.

No manure was spread upon the land the preceding year, and none for many years previous, and the product of hay on said land, in 1830, was not more than four hundred to the acre.

Thirty-seven commoncart loads of manurew ere spread on said piece of land in the month of May last, and twenty-three common cart loads put into the hills; two rows of potatoes were planted on three sides of the field, which was dressed with the above-mentioned manure. The land was lightly harrowed after the manure was spread; and ploughed on the last day of April, and second day of May.

The seed was not measured, but from 5 to 7 kernels were planted in a hill.

The corn was planted or sown in hills, about 3½ feet distance: it was planted on the 26th of May, and hoed twice in the month of June, and hilled early in July: the crop was gathered or harvested on the 20th of October. The quantity raised was ascertained by first sorting and then filling one basket of each kind, without culling, which was shelled and measured; the remainder was then measured in the same baskets, and the entire crop of the above-mentioned piece of land was two hundred and two bushels and twenty-two quarts. Shelled and measured as above on the 14th day of November.

HENRY SPRAGUE,
ALBERT H. SPRAGUE.

*Worcester, ss. November* 21, 1831.—Then the above named Henry Sprague and Albert H. Sprague personally appeared, and made oath, that the foregoing statements by them subscribed are substantially true.

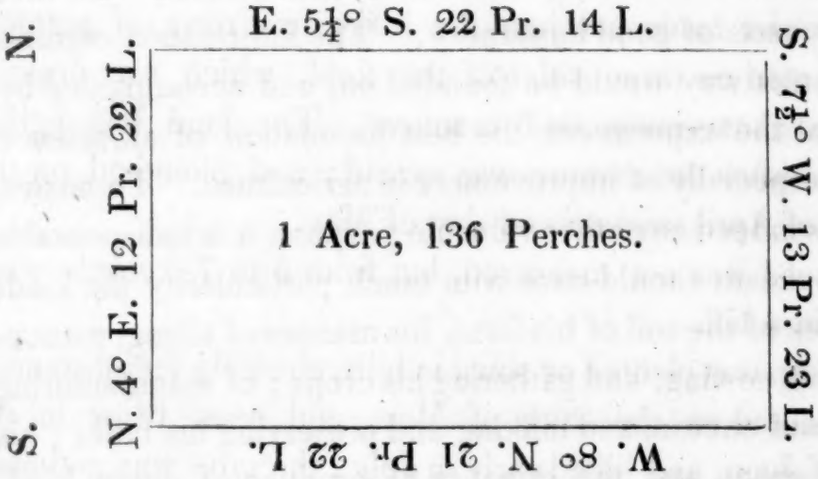
Before me, CHARLES RUSSELL, *Justice of the Peace.*

This is to certify, that I have measured the ground shown to me on the Boylston Farm in this place, whereon Capt. Hen-

ry Sprague raised his corn, which he intends to offer for a premium to the Massachusetts Agricultural Society at the Exhibition at Quincy Hall, Boston, in December next; and find the same to contain one acre and one hundred and thirty-six rods. The plan accompanies this. JOSEPH MASON,

*Sworn Surveyor.*

PRINCETON, Nov. 21, 1831.




Surveyed by JOSEPH MASON.

PRINCETON, Nov. 1831.

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## REPORT OF THE COMMITTEE ON THE BEST CULTIVATED FARMS.

The Committee appointed by the Trustees, to examine and consider the claims for premiums for the best cultivated farms, submit the following Report:

The Committee, with much regret, find that the premiums offered by the Trustees, for the best cultivated farms, have not received the attention from our respectable farmers, that was expected. Only three applications have been made this year; and although they all have merit, and appear to come from skilful agriculturists, your Committee do not perceive in either of them such superiority, either in their processes or results, as would justify them in recommending a premium. They had hoped

that the encouragement offered, and the desire, which they knew was generally felt by that respectable class of citizens, to promote the interests of agriculture, would excite a generous competition among our most intelligent and practical farmers, which would prove useful to themselves, and more useful to their brethren, who had less experience and skill than themselves, by enabling the Trustees to communicate, through their statements, their methods of cultivating their farms, with results,—the most satisfactory tests of good husbandry. The information communicated in this way would be founded on, and accompanied by, a history of the experiment, the best foundation of all science, and more especially of improvement in agriculture. To answer this end, or indeed any other valuable purpose, it is indispensable that the applicant should state with much particularity the kinds and qualities of the soil of his farm, his manner of tilling, manuring, planting, sowing, and gathering his crops; of manufacturing his butter and cheese, and making and preserving his cider; his rotation of crops, and the quantity of produce of every kind, and indeed all his processes and operations in carrying on his farm. To prevent misapprehension and insure this benefit from their statements, the Trustees, in their proposals, specified with minuteness the particulars which they deemed necessary to render their account useful to the public, and which they required to be stated as the condition on which the premium would be allowed; and although it was perceived that this particularity might occasion some trouble to farmers, it was hoped that the benefit they might derive from a more accurate record of their own proceedings, the consciousness that they were benefiting the public, and the premium offered, would be deemed an adequate compensation. The Committee, although twice disappointed, do not relinquish the hope they at first entertained, nor feel a doubt of the benefits that will accrue to our farming brethren from this measure, if they see fit to co-operate in carrying this into effect.

It is well known that the Trustees, for many years past, have given premiums for the encouragement of the cultivation of

nearly all the different agricultural products, vegetable and animal, that are grown in our country, and thereby materially promoted improvements in most of them; the judicious management and cultivation of a farm, it is thought, requires a combination and practical exercise, by the farmer, of all the knowledge and skill necessary for the cultivation of the articles separately that are produced on that farm. It is obviously a different science, more complex, more difficult to learn; requiring judgment, experience and observation to carry it into successful practice. A man may know how to cultivate any or all of those vegetables separately, and yet not understand how to carry on a farm to the best advantage. Next to an individual's own experience, is a true and particular account by others, of a judicious and skilful cultivation and management of farms like his own, where the expense of labour, markets for crops, and habits of living, are nearly the same; if he can have their method and practice fully and accurately communicated to him. The latter is indispensable to enable him to adopt their experience as his own. It will probably be found, that many important agricultural processes are yet unsettled, among our intelligent farmers; and some practise one way and some another,—sowing of grass seed is an instance,—whether it is best to sow it in the fall or spring, by itself alone or with grain, and what grain. Different practices and opinions, on this head, will be found in the few communications the Committee have received. Nothing in the opinion of the Committee would tend more to settle these questions, which must be determined by experience, than an interchange of the opinions, and accounts of the practices of scientific and experienced agriculturists, which a competition for these premiums would produce.

Although the Committee entertain these views of the subject, they cannot but feel a discouragement from the want of interest the public appear to take in it, which certainly ought to lessen their confidence in its practicability, if not its utility. They however venture to recommend the continuance of a bounty for this object, for one year more; provided the Trus-

tees shall think themselves justified in raising the premiums to an amount that will liberally indemnify the successful candidates for all the trouble and expense of taking the particular account required, and be considered an honourable mark of distinction to an intelligent practical agriculturist.

The Rev. Morrill Allen, of Pembroke, has claimed a premium for his farm of about seventy acres in that town. His statement, the Committee thinks, shows him to be a scientific and judicious cultivator. He states that he had no capital, and, in seaman's phrase, was obliged to work his passage; and it appears that he began with purchasing small parcels of land, one after another, gradually subduing the bushes, and enclosing them with walls, and then proceeded to improve the soil. Part of the land consisted of old fields, which had been exhausted by tilling without manure. These he renewed principally by the incorporation of earths of different qualities; the cold and tenacious soils he dressed with silicious earths, and other materials that tended to open and warm them; and sandy soils he dressed with clay and swamp mud, and alluvions in which sand formed the chief part. The Committee think Mr. Allen has shown judgment and discrimination in the mixture of earths, and making compost manures adapted to the quality of the soils to which they were to be applied, that is worthy of notice and imitation. It will be seen by Mr. Allen's statement, that he makes yearly from 300 to 500 loads of compost manure, by carrying earths, swamp mud, and vegetables, into his barn-yards and adapting the mixture to the soils it is intended for. This is rather a large quantity for the land he cultivates, and accounts for his crops of grass on land once exhausted. Last year he planted seven acres of Indian corn, three loamy and four sandy soil, and in one acre of the latter six cords of compost manure, and on another six casks of lime were spread, but he omits to state the quantities produced on these particular acres: no manure was laid on the other five acres, and the whole produced 298 bushels, which may be considered a fair crop for the quantity of manure used. Mr. Allen's rotation of crops is simple.

He tills nine acres, which he plants alternately with corn or rye, and once in five or six years plants with potatoes or beans or some other vegetables, which he thinks makes a favorable change from his common course; but here again he omits the quantity of manure used. His practice, he says, is, as soon as he has taken off the crop of rye, in August, to plough in the stubble, and sow grass seed, which produces herbage that he afterwards ploughs in as a green dressing. This practice the Committee take upon themselves to recommend, convinced that the farmer would find his labour and expense amply compensated by its mellowing and enriching his land, and saving his manure, the most precious article on his farm. The Committee regret that Mr. Allen has not stated when he sowed his rye, whether in the spring or fall. It has, they believe, generally been thought, that in common seasons Indian corn would not be ripe for gathering in season to sow winter rye. If this can be effected by planting early, or using corn that ripens early and yields well, it might often be found a convenient and advantageous succession of crops. Spring rye is by many not thought so certain a crop; but on this question a more extensive knowledge of the practice and experience of successful farmers is wanted. Mr. A. has also omitted the quantity of rye produced in this rotation of crops; but he tells us that in laying down his tilled land he prefers sowing his grass seed alone in the month of August, that September will answer better than either of the spring months, and that it is better to sow it with winter rye than with any spring grain. His clayey soils, not suitable for grain, he sometimes turns over with a plough immediately after the grass is cut, rolls down the furrows, and puts on a dressing of manure and seed again. In this way hay is his principal crop, and it appears that upon twenty acres which have been ploughed and laid down, and twelve acres of meadow and irrigated land, he usually cuts, according to his estimate, 33¾ tons of English hay of first quality, ten tons of second quality, and 14⅓ tons of inferior hay, making about 58 tons, better than 17⅛ tons to an acre, and over a ton of the first quality to

an acre. The Committee regret Mr. Allen did not receive the Trustees notification in season to ascertain the quantity of hay made this year, as he put it into his barns. The estimate furnished is one made in 1827, when the hay was in the barn; and he says his crops have varied but little for four or five years past. Mr. A. sells from ten to fifteen tons of hay annually, and keeps but a small dairy. Mr. Allen states that forty acres of his land are of a light sandy soil, and so much exhausted by tilling without manure, that he was discouraged from attempting to recover it in his usual way, and that last spring he ploughed three acres, fenced it in, and sowed it with locust seed, which have come up and look well, and he expects, if the worm should spare them, they will enrich his land, and produce a valuable though distant crop of timber and cord-wood. He has also ploughed and sowed five acres, this fall, with white pine seed, and was about ploughing in several acres with white-oak acorns. These experiments the Committee consider useful to the public, and creditable to the enterprising cultivator, and they most heartily wish him success. One man and a boy sixteen years old are employed constantly on the farm; and in addition, day-labourers are frequently hired.

It would give the Committee pleasure to be able to recommend a premium to this respectable and skilful cultivator; but, considering that the statement of the applicant to whom a premium is given, should not only show that his farm was judiciously cultivated, and his particular method, but also the quantities and amount of all the products, with as great certainty as the nature of the case will allow, in order that other farmers may be able and induced to improve by his example,—they think they should not be justified in recommending a premium to be awarded him; but they hope the Trustees will see fit to bestow on him a gratuity of fifty dollars, for the example he has set of judicious and skilful husbandry.

Peter Thacher, Esq., of Attleborough, has claimed a premium for his farm in that town, consisting of 300 acres. Mr. Thacher's statement shows that he has exercised good judgment

in subduing, renovating, and enriching his extensive farm. It appears that about ten years ago he purchased an old farm of 200 acres, now part of his farm, that for several years yielded him only three or four tons of hay, where he now cuts from thirty to forty tons of English hay. His method of cultivating, he says, has been to remove hedges and subdue the bushes by degrees, and plant but little, and manure that highly. He usually spreads five cords of manure on an acre, and puts five more in the hill, and for four or five years past has gathered crops of 200 bushels of potatoes, and sixty bushels of corn to an acre. That which Mr. T. seems to consider as his greatest improvement, is the bringing into good cultivation a piece of wet land, on the sides of a hill, covered with weeds and bushes. He commenced with the upper part, ploughed half an acre, drained it, and then carried on a quantity of old hay and long manure, and planted it with potatoes, and hoed them without ploughing, and it yielded a large crop of good potatoes; and in this way he reduced the whole piece, and it now produces a great crop of English hay. His rotation of crops has been potatoes the first year, the second corn, and the third spring rye, with which he sows grass seed as early as the state of the ground will permit, and rolls it down with a heavy roller. He prefers spring rye to oats to lay his land down with, and the spring to the fall, and thinks the grass seed takes better with rye than oats. Mr. T.'s practice is to make large quantities of compost manure in his barn-yard and hog-pens: in the fall he carries it all out of his yard, and the next spring spreads the manure thrown out of the barn, over the straw and hay that has been collected in the yard during the winter, and covers the whole with a crust of loam that he carts in, which he thinks prevents the strength of the manure from escaping. This compost he uses both for his corn and grass. Mr. T. has 500 apple-trees on his farm, 400 of which are mostly natural fruit, and appear to have received no particular attention from him; the other hundred are young trees, engrafted with good fruit, and these he has practised washing every spring with soap and ley, mixed in equal parts,

and digging around and manuring them. He keeps fifty sheep, for some of which he says he has received a premium in his own county; but makes no more butter and cheese than is wanted in his own family. The Committee were particularly pleased to find that Mr. T. was able to carry on this large farm without any ardent spirits. This practice, wherever adopted, will prove as beneficial to the labourer as the farmer—highly beneficial to both.

Although the Committee cannot report that they consider Mr. Thacher entitled to the premium proposed by the Trustees, they with pleasure state, that they think he has great merit as an agriculturist, in subduing and bringing to a state of good cultivation a farm, which, a few years since, consisted of rough, exhausted and profitless land.

Jonathan Allen, Esq. of Pittsfield, in the County of Berkshire, has also presented a claim for a premium on his large and excellent farm in that town, accompanied by a statement of his manner of cultivating, and the products he gets from it. The farm consists of forty acres of meadow or intervale, which receives its manure annually from the overflowing of the Housetonic, and about 210 acres of upland. Mr. Allen appears to have exercised much agricultural science, as well as care and attention, in the cultivation of his farm, and in making useful agricultural experiments. It will be recollected that Mr. Allen applied for a premium on this farm last year, and presented a statement of his manner of cultivating it, the crops it produced, the rotation he has practised, and the result of his experience as to the best time and manner of laying down land to grass. This statement was noticed by the Committee, and published with their report in the Massachusetts Agricultural Repository. His statement as to the general course of his husbandry is not materially varied this year, and the Committee regret to find almost the same want of particularity as to the quantity of products. The quantity of hay, his principal product, rests on estimate, without having weighed a load: a small part only of the winter rye and oats were threshed, and no

part of his spring rye or beans were threshed, or in any way measured; but his Indian corn was, and four acres were found to produce 450 bushels of ears: Indian corn was grown upon the same land the year before, and this year it was manured with seventeen loads to the acre, put into the hills. Sheep are the principal stock of the farm: he kept 430 this year, from 350 of which he sheared 851 lbs. of wool of the first quality. *May* he considers the best time for lambs to come. Mr. Allen states that in years past he has made experiments in raising potatoes, and this year has made many more with care and attention, which, in the judgment of the Committee, entitle him to the thanks of the public. For a particular account of these experiments they refer to his statement, which accompanies this report, and recommend it to the attention of agriculturists. From a remark of Mr. Allen, that he could not with convenience thresh out his grain in season to measure it so early as was required, the Committee apprehend he must have misunderstood their regulation, which only requires that the application should be made by the first of October, but the evidence or particular statement may be exhibited any time before the first of December. It appears to the Committee that Mr. Allen has cultivated his farm like a skilful and attentive agriculturist, and realized great products, and they hope profits; but his statement is too general and indefinite, leaving the quantities of the greatest part of the produce to depend on estimate; and they think does not, on the whole, show his cultivation so superior as to justify them in reporting in favour of a premium. Considering, however, the pains Mr. Allen has taken to introduce upon his farm a variety of vegetable products, and choice fruit, and especially the nice care and attention he has given to the cultivation of potatoes, the most valuable of our roots, the Committee recommend a gratuity of thirty dollars to be granted him.

WM. PRESCOTT.
P. C. BROOKS.

[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN,—Situated at a distance from any considerable market town, it would be absurd in me to think of entering into competition in the aggregate amount of crops, with farmers in the vicinity of the city, where manure is attainable to any desired extent. On the supposition that the management of farms is judged in reference to local advantages and inconveniences, my hope is founded of sustaining a claim to a premium. There have never been any very great improvements made on my farm in any one year. The object has been yearly to add something more in earthy and vegetable substances to the fields, than was taken from them in the removal of crops. To give a just idea of improvements made, a brief history of the operations may be necessary. My first purchase of land was in 1802, fifteen acres,—the greater part of which was in a very rough state, and as much of it as had been tilled reduced by severe cropping. The rocks were removed to enclose the ots, and the bushes subdued with the plough, as fast as the necessary means could be obtained for accomplishing those objects; the progress was not rapid in the beginning, because, being entirely destitute of capital, I was obliged, in seaman's phrase, to "work my passage." When the fields were enclosed with walls and the bushes subdued, attention was directed to the plats which had been tilled almost to exhaustion. And the principal means of renewing them within my power was the incorporation of earths of different qualities. Cold and tenacious soils were dressed with silicious earth, and other materials that tended to open and warm them. Sandy soils were dressed with clay, swamp mud, and alluvions in which sand formed the least considerable part. This course, in seven years, gave ten tons of English hay where less than two were obtained before, and about double the quanity of grain on the acre. In 1817, another lot of sixteen acres, a large portion of it in a similar state with the first, was purchased and managed

in the same way. About the same time were purchased seven acres of fresh meadow, on which no other improvements have been made than clearing away bushes, tunnelling and cutting ditches in such directions as would irrigate the whole meadow. Another small lot was enclosed from a pasture, in 1820, and has since been cultivated as English meadow and tillage. Four acres of the above lots are light sandy soils, six acres hazel loam, suitable for grain or grass, five acres dark friable soil, fifteen acres argillaceous, and ten acres of irrigated fresh meadow. Seven acres were planted with Indian corn the present year, three acres of loam and four acres of sandy soil. On one acre of the loam about six cords of barn manure were spread and ploughed in; on another acre, where in other years meadow mud had been applied, six casks of lime were spread; on the other fields, which produced rye the preceding year, there was no application. The corn was planted in drills,—this method has been in practice on the farm more than twenty years, and is in my judgment preferable to any other. The corn was harvested between 20th Sept. and 20th Oct. Weight of whole crop 22381 lbs.—298$\frac{3}{7}\frac{1}{5}$ths bushels. The same fields the preceding year produced 120 bushels of rye. The present year there were only about two acres in rye, and the produce was 25 bushels.

There are *nine* acres in tillage, alternately planted with corn and rye, excepting once in five or six years, each field is planted with potatoes, beans, or some other vegetable considered favorable as a change from the ordinary course. The stubble of rye is ploughed in, immediately after the removal of the crop, and some kind of seed applied to produce herbage to be ploughed in as green dressing. Potatoes this year were planted only on the borders of cornfields, under trees, and in other situations where not much produce could be expected,—80 bushels were gathered. From 200 to 300 has been the average crop in the last four years. No other roots are cultivated except in the kitchen garden. Thirty-two acres were mowed, twenty of which have been ploughed, and will produce good

English hay in common seasons, with liberal manuring; but a succession of wet seasons has introduced on a part of it so much wild grass, that the hay is not now suitable for the market, though good stock hay. There are ten acres of irrigated land, as above mentioned, and two acres of fresh meadow over which water does not often pass. The hay was located, before the offer of premium was published, in such manner that it is impossible for me to ascertain with accuracy the quantity. Some of it was placed in barns with old hay, and some of it sold in the fields. The crop of hay has varied very little for four years, yet supposed to have gradually increased. In 1827, the whole crop was measured in the mow in September, after it was thoroughly settled. Four cords of English hay were considered equal to a ton, and five cords of fresh. According to that measurement, there were 33¾ tons of first quality or good English hay, 10 tons of second quality, and 14⅖ths tons fresh hay. Five acres then mowed are now in tillage. From two to three tons of second crop areannually cut, in situations where it is not convenient for cattle to feed. Compost manure, made with reference to the quality of the soil where it is to be applied, is every year spread on the mowing land. Sand is made a principal ingredient of compost for the clayey soils, and swamp mud or clay for loose soils. From three to five hunred loads, 40 bushels in the load, are made in a year and applied chiefly in autumn, not so much from choice as necessity, there being no other season of sufficient leisure to accomplish the work. In laying down tilled land to grass, I choose to sow the seed about the last week in August and put no grain with it; but any time in the month of September will do better than either of the spring months; and if sown with winter rye, it will do better than with spring grain. The clayey soils which are not suitable for grain, I sometimes turn over with the plough immediately after the grass is cut, roll down the furrows, and put on a dressing of manure and seed again. In this course, cultivated grass is renewed without the loss of any crop. I use chiefly herds grass seed, and put one fourth of a bushel on an acre.

I have forty acres of pasture of alight soil, and, in the possession of other owners, it was alternately tilled and pastured in so quick succession that only very small crops of corn or rye can now be obtained. The number of acres discouraged me from attempting to renew it in my usual way of mixing soils; and therefore a plan is formed to renew it in the operations of nature. Last spring a field of between two and three acres was fenced, ploughed, and sowed with the seed of the yellow locust tree. The seed came up well and the most thrifty of the young trees are now three and a half feet high. If the worms should not oppose me, there will probably be a very flourishing grove, which in a few years will effectually recruit the soil. In this connexion, it may not be amiss to mention that I have this fall sowed five acres of common land with the seed of white pine, and am now planting several acres with acorns, which it is intended to protect against cattle with a fence.

The number of apple trees on the farm is eighty, most of them situated in two small orchards. There are some scattered trees, and a few cultivated in the garden. Nearly half the trees have been ingrafted, chiefly with winter fruit. This year there are no apples. The last year, probably, there were an hundred bushels of winter apples, and enough beside to make six or eight barrels of cider. The principal attention given trees after they have attained the bearing state and need little or no more pruning, is to scrape off the rough bark and moss early every spring and wash the bodies of the trees and the large limbs with very strong soap-suds or a solution of potash.

The barns have been built in succession, and some of those first erected are of very incommodious form for the general purposes of a farmer. They were built when there was no expectation of needing much room for the storage of hay and grain, and some other uses of them were in contemplation. The first barn is 20 feet wide and 30 feet in length, the second 20 and 40; the third 30 feet square, built for the exclusive purpose of storing hay; the fourth 26 and 30; and the fifth 30 feet

square. Under a portion of two of the barns openings are left to shelter the cattle from the severity of the weather. The barns were located with a view to convenience and facility in getting the hay and manuring the fields. There are four barn-yards, three of them are built square, and hollowed a little in the middle, for the retention of the manure; the fourth is of irregular shape, to give the cattle access to a spring of water. Into the yards, such kinds of earth are carted, as are considered best adapted to the fields where the manure is to be applied. With the earth every sort of vegetable substance is incorporated, which can be easily obtained. These, with the droppings of the cattle, make rich beds of compost every year.

The usual stock on the farm consists of one horse, six oxen, three cows, and eight or ten young creatures. The horse and oxen not pastured much on the farm. From about the middle of July to the first of September this year, five cows were milked, two of them heifers of only two years old. The cows were under the care of a tenant. Cheese-making was not commenced early in the season, and continued only to 20th September. Milk was daily taken for the use of the family, in which there are several young children. The return of cheese made was 464 lbs. From the 20th Sept. to Nov. 5th, butter was made with four cows and the milk given to swine. The return of butter was 70 lbs. The cows have something of mixed blood, but are chiefly of native breed, and were raised on the farm. Three swine only are kept, fed with the refuse of the house, boiled potatoes, and corn. The annual quantity of pork is about 900 lbs.

My cattle in winter are fed chiefly on hay, milch cows have some meal and vegetables, and oxen intended for beef the succeeding fall are fed with some grain the last of winter. Calves to be raised are suffered to suck one half the milk of the cows ten weeks, then put into a good pasture till October, when they are put with fattening cattle, where they soon learn to eat whatever is given out, and become very vigorous to endure the inclemencies of winter.

About two tons of beef are made in a year on grass, green corn-stalks and refuse corn. Oxen and cows are generally turned off to beef for some other reason than the particular age; and at what age it would be most profitable to turn off those of excellent qualities, is a question which has never employed much of my attention. The principal product of my farm is hay, of which ten or fifteen tons are annually put up for sale. The residue is sufficient to winter twenty-five head of cattle; but the pasture not being equal to the summering of nearly that number, a part of the stock wintered is often sold in the spring. One man and a lad sixteen years old labor constantly on the farm; in addition to which, day laborers are frequently employed. The present year, twenty acres of the mowing land were put out on a share, and forty days labor hired. One gallon of rum was used by some elderly laborers, who have worked on the farm more than twenty years in the hay season; and the owner supposed the cause of temperance would be injured rather than promoted in withholding from these men their accustomed portion, who never in their lives, to his knowledge, drank to intoxication.

Respectfully submitted,

MERRILL ALLEN.

*Plymouth, ss. Pembroke, Nov.* 21, 1831.—Personally appeared before me the above named Merrill Allen, and made oath that the above statement by him subscribed, was true, according to his best knowledge and belief.

KILBORN WHITMAN, *Justice of Peace.*

| | | | |
|---|---|---|---|
| Lot | 1, | 15 acres, | Part in a rough state—part too much cropped. |
| " | 2, | 16 " | Much the same as the above. |
| " | 3, | 7 " | Meadow—fresh meadow. |
| " | 4, | | Small lot from a pasture. |

4 acres are light sandy soil. 6 acres hard loam, suitable for grain and grass. 5 a dark friable soil. 15 argillaceous. 10 irrigated fresh meadow.

This year three acres of loam, and four acres of sandy soil were planted with corn.

On one acre of loamy land, six cords of manure were ploughed in. On one acre sandy, six casks lime—in other years, meadow mud had been put in.

On the other fields which produced rye the preceding year, no manure.

Corn planted in drills, gathered 298$\frac{11}{75}$ths bushels 42$\frac{4}{7}$ths.

Nine acres in tillage—corn and rye alternately—excepting once in five or six years, a crop of potatoes or beans.

The stubble of the rye is ploughed in immediately after taking off the crop, and some kind of seed is applied to produce herbage.

From 200 to 300 bushels potatoes his average crop for three or four years past.

Mows 32 acres—twenty of which have been ploughed—yields good English hay.

10 acres of irrigated meadow—and two acres of fresh meadow.

1827. 33$\frac{3}{4}$ tons of hay, first quality.
10 do second quality.
14$\frac{2}{6}$ths fresh hay.
—
58

Sand principal ingredient for clayey, and swamp mud in sandy loose soil—300 to 500 loads—in autumn.

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*Benjamin Guild, Esq.*

Dear sir,—It is but a few days since I saw or knew of the premiums offered by the Massachusetts Agricultural Society for the best cultivated farm; and a less number, since I thought of offering mine. Not being in the habit of writing, I fear I shall make a bungling hand at it. I do not suppose, that mine will compare with many of the farms in Massachusetts, where there has been thousands laid out; but believing that I have made considerable improvements within a few years, with small ex-

pense, I therefore offer my farm, which lies in the East parish in Attleborough, containing about three hundred acres of land, lying nearly square. The soil is variable as to quality; there are about twenty acres of old fields, worn out, lying at one corner; about fifty acres deep black loam, and nearly clear of stones; about thirty acres of meadow or low land; about one hundred acres of wood-land lying upon one side; and another part of strong, moist, cold land, which never was ploughed, and might nearly all be made into excellent mowing land,—but it is used as pasture. My English mowing lies at the head of a small spring brook, and has something of the shape of a plate, except that there is one place for the water to pass off, and the meadow or low land lies on said brook, to where it enters Ten Mile River.

Two hundred acres of this farm I purchased about ten years since, for which I paid $5000. The said farm was very much run out, having been let for a number of years. The first year I cut but three tons of English hay, that could be called good, on the farm that I sold. Two or three of the last years I suppose I have cut from forty to fifty tons yearly. The last year I kept an account of what I sold, which was about eighteen tons, which I put into a barn by itself; that I sold for $16 per ton, by carting it five miles to Pawtucket. The remainder of my English hay, I put into another barn for my stock, and it was quite certain that I did not sell half of it. This year I think I have put into the same barn twenty tons, for fall, which filled a 30 by 40 feet barn, when it was first put up. I put more than this into another barn for my stock. Of said hay all but about two loads was cut on the said two hundred acres, and I have turned out about fifteen acres to pasture that was formerly mowed. The method I have taken has been to move fences and subdue hedges, plant but little and manure highly. I have made it a rule for five or six years past, to plant about four acres with potatoes, and get from one to two hundred bushels per acre,—and four with corn, yielding about sixty bushels to the acre of shelled corn. I general-

ly spread on about five cords of manure to the acre, and put about as much more in the hill. My hands have told me sometimes that I should spoil my potatoes by putting in so much.

But the greatest improvement I have made is in subduing fallow land, which was always run round as though it was worthless; and it indeed was, as it then lay, for it was in the way, lying in the middle of my mowing land, and yielded nothing of any value. I begun upon the upper side (for it lay on a gentle descent) and ploughed about half an acre for experiment, and drained it as well as I could, but the water was constantly issuing out of the ground on every part, in our driest seasons. My neighbours told me it was labour lost; but I carried in considerable old hay and long manure, and laid it out for potatoes, and planted them on it, and hoed them to subdue the ground, for we could not turn it over with the plough, that it would not turn back. In the fall we gathered a fine crop of large excellent potatoes. I think I have learnt by experience that blue or red potatoes are better suited to this soil than white ones.

I went on till the whole was subdued, and laid down to herds grass and Rhode Island hay, being about four acres, and now it produces from two to three tons of good hay per acre, yearly. There is about six or eight inches of soil or mud on the top, and we then come to a hard pan of gravel and clay.

I have generally sown, for a number of years, five or six acres of pasture land to winter rye, such as was suitable, and put on no manure. I only take off a crop, and let it lie for pasture; generally sowing on Rhode Island seed with the rye. Sometimes I have sown it on the snow in the Spring, for experiment, but I do not know that it makes much difference. My winter rye is usually light, say six or seven bushels per acre.

I have sown down mowing land with spring rye, believing it to be much better than oats for the land, and also for the grass. The seed will take much better for some reason; and that ground which is not suitable for rye I sow only with hay seed. I put on manure only when I plant it. Spring rye is generally

quite good, say from 12 to 15 bushels per acre. I generally reserve a spot for round or English turnips, and sometimes plough a piece of sward, after taking off the hay where I intend to plant the next year, turning it over smooth, and spreading on some manure—then harrowing it well with a light harrow to cover the manure, but not harrowing up the sward; then sow the seed thinly, and harrow it in; and sometimes raise a good crop very early in this way, say from one to two hundred bushels per acre. I also sow turnip seed on my manure that I dress my corn with in the hill, and raise my early turnips for the family, and sometimes a large quantity of large turnips for the cattle. I have also made a point of raising a number of bushels of ruta baga for my table and cattle, which I think are very excellent for milch cows.

I have about 60 acres of English mowing, and I generally have from 12 to 15 acres of it up to corn, potatoes, and spring grain. I plant none but this. I have ploughed all of it; but shall not think of ploughing the low lands mentioned any oftener than I find it necessary; but shall spread manure every fall.

The hay consists of herds grass or timothy, red top, Rhode Island, and clover. I have a ditch out of a swamp, and can water almost all my mowing, in the fore part of the season. I mow about 30 acres of meadow or low land, which I think cuts about thirty tons of hay, or nearly, and is principally the common brook meadow grass. I have thrown the water over a part of it, which has made considerable improvement to quantity and quality of hay. I like to raise my own hayseed and sow it,—I think it does much better than I can buy. I do not clean it, therefore, I cannot be particular as to quantity. I want but little Rhode Island or red top, but am not afraid of putting on too much herds grass, or clover. If we do not put considerable clover seed on rich ground, the hay will be very coarse and nearly worthless. I choose the early spring sowing, and think it the best; but wait till the ground gets dry, if it is not till the fall. I have been troubled about low ground taking the seed; and have a number of times sown in the

spring, after the land was laid down, on what sward there was, and it has done well. I have about a hundred and thirty acres of pasture land,—about one half of which was never ploughed. One half the other I plough and sow to rye as before mentioned; the other quarter has scarcely been ploughed this forty years, or since my recollection.

The number of apple trees on the farm is about five hundred, mostly in orchards. One orchard of about one hundred trees was set out about forty years ago. One of about one hundred trees about twenty years ago. One of about two hundred trees about fifteen years ago. The greatest part of them are natural fruit. About fifty grafts have been grafted occasionally, as opportunity offered, and some of them are hardly in bearing. To those trees we have done but very little, except trimming, and putting chip manure and old pumice around them, to keep the sward loose. I made about 90 barrels of cider last year, saved about ten barrels of excellent winter apples, and sold as many as 30 bushels of fall apples, and used a number of bushels in the family. As to making cider, my rule is to pick the apples as soon as I think them worth picking, and make them up into cider; and as soon as apples are ripe, shake, and pick the rest, and put them into an apartment in the mill, so that they will not heat, and keep them till they are mellow, and then make them up, and see that the mill and press are clean and sweet. I grind them out in the afternoon, and let them lie in the trough, and on the press, till the next morning, then press the cider out, put it into clean casks, roll it into the cellar, place it where it is to stand, knock out a bung, let it work, and stop it again as soon as it is done.

I put the greater part into two hogsheads. I like them best, and am very careful to keep them sweet. My rule is, as soon as the cider is out to wash them clean, and dry them, and put them in the cellar; and if they get foul, I have tried to cleanse them by setting a rag dipped in brimstone on fire and putting it into the barrel, then bung it up and sweeten them in that way;

but the better way is to throw them aside, and get more. I calculate to pick all my apples by the first of October.

I have another orchard that was set out two years ago last spring, of one hundred trees, all selected, and of the best kinds of fruit. There are twenty-eight kinds. This orchard I have nursed, and manured highly, and it looks very thrifty. I wash the trees with soap and ley mixed in equal quantities, in the Spring, which I think is far superior to anything else I have ever used or heard of. As to my house, it is 28 by 33 feet, two stories high, with a kitchen 16 by 16; a cheese room, milk room, and buttery running out back; with a well-room, wood-house, wagon-house, farmer's work-shop 33 by 16, a tool-house, a corn-barn, chaise-house, and cider-mill adjoining the kitchen, and nearly reaching the barn, which is 30 by 70, with two barn-floors. I can tie up twenty head of horn cattle, and put up four horses. There is a shed at one end, 12 by 60, and a barn-yard adjoining about five rods square (with a well in it) where I keep my oxen, cows, and sheep, not letting them get loose through the winter.

I have another barn, already mentioned, where I keep my hay for market, which is 30 by 40; another barn 20 by 30, which I fill, barn floor and all, with my poorest hay; a shed adjoining, 60 by 12, with a warm yard also adjoining, where I keep my young cattle, and let them go to a spring in the lot near said barn to drink. This yard I clean out in the spring, heaping up the old hay and manure, as soon as the frost is out, and at planting time draw it out and manure my potatoes with it, there being about 20 loads. My other yard, where I keep my other stock, I clean out in the fall; then fodder my cattle in it all winter, then cart my green manure that was thrown out of the barns, and spread it all over the yard, and then cart in as many loads of loam and spread it over the manure, to keep it from drying up; then yard my cattle upon it all summer, ploughing and mixing it occasionally out of this yard. I carted 119 half-cord loads of excellent compost last fall, 40 loads of which I put on my corn ground for spring.

The other 79 loads I put on my English mowing, and spread it. This has been my method for a number of years as to manure.

I have a hog-pen also, walled in with a thick tight wall, about three rods square, the north corner of which is dug into a side hill, at which there is a nest covered with flat stones; at the south corner of which there is a pair of bars and a house to feed them. The north-east and north-west sides we can back a load up, and tip it over the wall into the pen. This I clean out in the Spring. Last Spring I carted out 60 half-cord loads, which I spread on my planting land. My method here is, as soon as I clean it, to cart in old hay and straw, then loam and green manure, and add to it in the summer anything that will rot, such as bulrushes, brakes, and small whortleberry brush, which grow in our rocky pastures, and are regularly cut every other year, half yearly, and with weeds which we throw in when at leisure. I also go to the sea-shore, which is 14 miles, and get a few loads of sea-weed, which I think very excellent to mix with other materials, and cart some mud out of a pond-hole in the woods, which is a mile off. I keep four oxen constantly, and generally a pair of steers to work, five cows constantly, and about thirty-five head of young stock. I have always calculated to raise my own stock, and raise about eight or ten calves yearly, and keep them till they are three years old. I have calculated to fat and sell $100 worth of beef yearly. I keep one horse and about fifty sheep about one half blooded merinos. The quantity of butter and cheese I can tell nothing about, we make little excepting what we use in the family.

My stock is the native breed, except seven years since I purchased a very fine bull, that came from New Hampshire, said to be of the Beckworth breed. I have ever since kept a bull descended fr om him, and have taken a premium on some of them at the Bristol County Society, also on some cows of the same breed.

As to my hogs (I calculate to raise my own pigs,) they gen-

erally weigh about 300 lbs. apiece, and are usually six in number.

As to labor on the farm, I have a son about 19 years old, and I have usually one hand seven months in a year, at 12 or 13 dollars per month; also a boy, and a number of hands in hay time. This year I hired about thirty days work, at thirty dollars. I collected all our hay into barns and stacks before August. We work out our team nearly or quite enough to pay our help. We have not used any ardent spirits for three years, and get along much better than formerly when we did use it, for there is now no grumbling, as there was then, for want of more. We use cider, hop beer, sweetened water, and milk and water. I generally hire such help as have families, and want all their pay from the farm.

As to rotation of crops, I like to plant potatoes the first year, corn the second, and sow down the third year with spring rye, as early as the ground will permit. I sow nearly a bushel to the acre, then harrow, and roll it in with a good heavy roller

I feed my stock in the fall with corn fodder, and good hay till cold weather comes, then with my poorest hay till spring, then with better. I give milch cows some roots in the winter, such as turnips and potatoes, beginning in the fall, and continuing them through the winter, lightly, as they will hold out. I never have any roots to sell except to hired help, although we have probably some years raised nearly a thousand bushels.

To my oxen I give five or six ears of corn daily, and when I work them hard, a little meal.

My calves that I intend to raise, (which must be entirely red) I have sometimes suffered to suck, and sometimes I have fed them with new milk, till they were weaned. But the better way on the whole, in my opinion, is to take them from the cow at about five or six days old, and give them new milk a few times, and then milk porridge once a day, and they will do very well without new milk; in a few weeks, a little dry meal is very excellent. I wean them usually at three months old. I usually keep six hogs, and fat them principally on pumpkins and po-

tatoes, boiling them together,—I have a kettle that will hold about three bushels,—mixing them up with a little meal, adding more meal from time to time till they are fat. I frequently give them a little green corn on the cob, for a change.

As to fatting cattle, I have no certain rule as to the age, but usually fat them young. I seldom keep cattle till they get on the decline. Some cattle will do very well till they are twelve years old, others fail younger, I usually fat them with grass and green stalks, and when they are done I turn them off as quick as possible.

As to sheep, I have taken the first premium at the show in Bristol County a number of times, on some of them. I let them run with the cattle in winter ; they will pick out a good deal that cattle will not eat. I give them a yard that they can run into away from the cattle, where they usually lie. I also have a rack in that yard, made on purpose for them, set perpendicularly that the seed may not get into their wool. I feed them with English hay. I have for some years, but not always, given them corn and turnips through the winter. I think they never did better than they did last winter. I kept them as usual (but without provender) till about the middle of February ; then I fed them in these racks with fine clover hay,—and after they begin to lamb, give them some corn, and turnips, as long as they would eat hay. I let them out of the yard as soon as the grass starts up a little in the Spring. I think they do best. I generally have them lamb the first of April, when I can keep my neighbours' rams away from them. I wish to mention one thing, which I fear you will think a pretty large story. I have a four years old ewe sheep (a cade), that never had a lamb ; she is always fat, and never would eat any provender of any kind, and always goes with the young cattle, and lives on the poorest hay I cut. Last Spring I sheared 11½ lbs. of fine wool from her. An agent of a large woollen establishment saw her, and said he never saw any thing like her before ; but this wool was two years old, not being sheared in 1830.

This rough draught was drawn in haste, and is quite imperfect. It is much longer than I expected, when I began.

I am, dear sir, very respectfully, your obedient humble servant, PETER THACHER.

P. S.—If I have any thing to boast in farming, I must acknowledge that I received it from the New England Farmer. I began with the second volume, and have since read it very attentively.

*Attleborough, East, September 28th*, 1831.

*Bristol, ss. September 28th*, 1831.—Then personally appeared Peter Thacher, subscriber to the foregoing statement of facts and description of his farm, and the management of the same, and made oath that the same is true.

NOAH CLAFLIN, *Justice of Peace.*

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PITTSFIELD, September 29, 1831.

[TO BENJAMIN GUILD, Esq., Secretary of the Massachusetts Agricultural Society.]

SIR—I wish to offer my farm for premium. It lies in the east part of the town of Pittsfield, upon the Boston and Albany stage road, containing two hundred and fifty acres or thereabout. The soil is alluvial and loam; forty acres of it good wood land, principally covered with sugar maple. I have also, in one square lot, forty acres of meadow, almost perfectly level, and overflowed by the waters of the Housatonic river (by which it is bounded on the east,) in the spring of the year when the snow melts away, generally; and sometimes twice or thrice in a year,—so that it never requires any manure, and I have nothing to do but to keep up my fences and cut the grass, which is all of an excellent quality, consisting of herds or timothy, clover and fine English,—has produced this year one hundred and six loads, which we have estimated to weigh one ton each, as we get it in, well made. This lot lies upon the east side of the road, opposite to my house; and the residue

of my farm upon the west side of the road, pretty nearly in a square form, a little elevated above the meadow, say eight or ten feet, and rises but little to the western extreme of the farm. I have an orchard lot, consisting of about eighteen acres, which I mow, and which has produced this year twenty-three loads, which we have estimated at one ton each, of excellent hay; making in all one hundred and twenty nine loads.

The residue of my farm consists of pasturage and tillage, say 147 acres, all good, which I have improved alternately for pasturage and tillage by a rotation of crops; first for wheat or rye, then corn, then oats or other spring grain, with clover and grass. I have improved it the present season as follows; of winter crops 20 acres, called—but if accurately measured would fall a little short of that quantity; it has however produced 4568 sheaves, 900 of which we have threshed, and which yielded 51½ bushels of first quality rye; 3 acres of winter wheat, which produced 911 sheaves, of which we have not threshed any. These two crops were sown upon old pasture land, summer fallowed and without manure. The 911 sheaves of wheat, or 60 shock and 11 sheaves, will yield by fair estimate ¾ of a bushel to the shock, which will amount to 45½ bushels. I have raised 14 acres of oats on land on which I had beans last year. After putting a light sprinkling of manure of 20 loads, the 14 acres produced 3080 sheaves, of which I have threshed 550 sheaves, which yielded 54 bushels—very nearly one bushel to 10 sheaves. I have also raised two acres of spring rye, which produced 601 sheaves; of this crop I have not threshed any, but it is a good one, and so good as to give me the B. A. Society's first premium. I had oats upon the land last year, but I put 20 loads of manure upon it. I sowed two acres of marrowfat peas upon land upon which I had potatoes last year, but the crop failed almost entirely, and I got but twelve bushels. I have also raised one acre of buckwheat where I had beans, put six loads manure and sowed one bushel of seed, which produced seventeen bushels. I have also raised two acres of white beans, which is a very good crop, but which I have not been able to

harvest. The time you have fixed on for making application, (1st Oct.) is a little too early for my convenience, and I shall not be able to make my statement complete in all respects. For instance, it would be considerable loss to me, I should think, to thresh out all my grain thus early, particularly oats, as the straw makes tolerable feed in winter—and it also furnishes employment for my man who takes care of the sheep and barn. Potatoes I have considered among the first and most valuable crops that the farmer raises; I have therefore made several experiments, and by far too many for my interest; yet my experience may be useful to others, and I have concluded to state some of my experiments, and offer some few remarks.

Some few years since, believing that the quantity usually raised from an acre might be increased materially, I accordingly ploughed one acre of mellow land, dragged it, and furrowed it out at three feet apart, and filled the furrows with well rotted manure. I then sorted out the largest and best potatoes, and planted them in the furrows on top of the manure, placing one potato every six or eight inches apart; then planted in the whole forty-five bushels; they were well covered and hoed three times, and at digging they were found to be almost all of them very small, not larger than walnuts, perhaps not as many good ones of good size as I planted. This I charged to the season as being unfavourable, and the subject passed off. Two year since I set out twenty-four cuttings of grapes, in my garden, where the ground was rich, being well manured, by sticking the ground end into a small potato, about the size of a hen's egg, and placing that in the ground three or four inches deep; these were not hoed,—the grapes all died, and in the fall, I pulled and dug the potatoes somewhat early in the season for eating. The quantity and large size excited the curiosity and astonishment of us all. Last year I planted in the garden, by way of experiment, one of the smallest potatoes, one of middling size, and one of the largest, in separate hills; and then put two and three and four in hills, where the land was equal—the result was, that the single potatoes produced the largest and much the best, but

not near so many in number of small size. I have made several other experiments, and quite enough. Upon examining a potato it will be found that each, whether large or small, has from six to ten eyes or sprouts; and if it be fair to calculate that each sprout will produce from six to ten potatoes, each potato will yield from 36 to 60 potatoes; which number is by far too great to be congregated in the circumference of a hill; the consequence is, a great proportion of them are small, and if more seed is planted, the greater the number of small ones, and less of large. This year I have planted about three acres, and upon one acre I put forty-four loads of coarse manure from my sheep yards,—the cart body somewhat heaped, say about thirty bushels to the load; spread it over the land and ploughed it in; then dragged, then furrowed at three feet apart one way only, and dropped the potatoes without sorting, the smallest as well as large, at about $2\frac{1}{2}$ feet apart, and covered, and hoed them twice. I planted $18\frac{1}{2}$ bushels seed. On the next $\frac{7}{8}$ths of an acre, by the side of the first, I put twenty-five loads of manure, ploughed and furrowed as before, and dropped my potatoes single at three feet apart, planted 17 bushels seed and hoed twice. The third acre was ploughed and dragged and furrowed as before, and a shovel full of manure at about three feet put in each hill, in all twelve loads, and hoed them but once, the same sort of seed in all, which is called the Burr potato, of flesh color, and excellent for table use. The result is as follows,—the first acre produced $425\frac{1}{2}$ bushels, the second $\frac{7}{8}$ths of an acre produced $250\frac{1}{2}$ bushels, and the third acre we have not completed the digging of, owing to the constant rains for the week past; but we have dug a part of them, perhaps one fourth part, and in such a way and places as to ascertain with a good degree of certainty, that this acre will not produce over 160 bushels.

I have also raised one acre of ruta baga, which now promises a large crop. They are not sufficiently grown to pull, therefore I cannot ascertain the quantity. The land was well fitted by putting 20 loads of manure upon it, before ploughing, then by spreading five loads of leeched ashes and one load of un-

leeched. I have strong hopes of a very large crop, although I do not consider it a very valuable one. I have also raised four acres of corn upon land on which I had corn last year, fitting it by putting 17 loads of manure to the acre, by dunging in the hill. The four acres, which I have measured accurately, as well as my potato lands, have produced 450 bushels of ears.

I have ploughed and sowed five and a half acres of winter rye, or thereabouts, and two acres of winter wheat upon the land upon which I have raised potatoes. This I have fitted, and intend to sow this day.

In addition to the above, I have let out about nine acres of land to be sowed to oats, on shares, or for one half, and for which I have received 1347 sheaves. I have also let out about 4½ acres, which have been planted to corn, in the same way, or for one half, and had it dunged in the hill. This is a fine crop, and not yet harvested; besides about 1½ acres more for buck wheat and potatoes. The land on which I have raised my oats, I have seeded down to clover and grass seed principally.

The number of apple trees in my orchard is 149, and I have several others scattered over the farm. Seven years since I put in 1000 grafts by contract, principally of winter fruit, such as greenings, spitzenbergs, gilliflowers, russets, golden sweetings, and seek-no-furthers, &c., of which I have a great abundance this year; but owing to the incessant rains for a week past, I have not been able to gather them. I shall have probably between 100 and 200 bushels. I have cider apples, and a great supply for family use, enough probably to make 40 or 50 barrels, which I do not usually make until some time in October, and have not yet done it. My manner of making cider is the common one.

As to sowing grass seed, I usually seed down about ten acres annually with four quarts of clover, and four quarts of herds grass to the acre, which I consider a plenty for mowing land. I have made several experiments. After taking off a corn crop, I have ploughed and sowed nothing but grass seed; this was done in the month of October, and it

took well, but did not get to maturity fully the next season. I have also sowed with rye in the fall, and also upon snow covering wheat and rye, and also in the spring with spring wheat, rye and oats, and I am satisfied that to sow clover and herds grass in the spring with oats, is the best time and way.

My barn is 100 feet long and 40 feet wide, standing east and west, with a floor through it lengthwise, over which is another floor, each 12 feet wide. Upon the south side of my barn I have a tier of stables extending the whole length, 12 feet wide, which is sufficient to put up 25 head of cattle. I have one shed extending from the west end of my barn south 120 feet, half of it 20 feet wide, and the other half 14 feet, capable of holding 30 or 40 loads of hay over head. I have three or four other temporary sheds of less value. My barn yard is 120 feet square, divided by a line of fence through the centre each way, making four yards of about sixty feet square, with a shed for each, and a well of water in the centre, from which I water each. In each of these I have wintered about 100 sheep, and make my manure principally by bedding them with straw. Of my sheep, I have now about the same number as last year, 430, having disposed of nearly as many as my increase by lambs. I sheared 350, which produced 851 lbs. of first quality wool, sold for 75 cents per lb. I raised only 84 lambs, in consequence of a severe rain storm the first week in May, which is the time I usually have them yeaned. I lost a considerable number. I keep them in separate flocks, and feed them in winter out of boxes prepared so that they can put in their heads on either side, and not waste the hay. This business of growing wool was my principal object in farming; but the low price the wool has brought for three or four years past has almost wholly discouraged me. I have been disposed to reduce my flock about one half, because I could not grow the wool for the price it has brought. This year, however, it has brought a fair compensation for growing. My sheep are first quality merino and Saxony, the fleeces light. I have kept only two yoke of oxen, three cows, and three horses. From my cows, which are of the first quality,

we have made butter only enough for family use. Of swine, I only keep and fat enough for family use, and some little surplus to pay laborers. I am now feeding six of the Byfield breed, which I intend to make weigh from 300 to 400 lbs. each. I have one that will now weigh more than four hundred. I make my pork by boiling potatoes the fore part of the season, then pumpkins, provender and corn.

In addition to my crops, I shall have probably thirty bushels of English turnips. I have a large garden, in which I put out 1000 cabbage plants—have raised six and a half bushels of onions, a great supply of beets, parsnips, carrots, winter squashes, besides water-melons, musk-melons, cucumbers, &c. I have ten peach trees, ten pear trees, and about 100 filbert bushes, which have all borne finely, except peaches, with which I cannot succeed here at all. As to amount of labor, I have had but one hired man for six months, to whom I paid ten dollars per month, or sixty dollars. I have two boys, almost men, belonging to my family, besides my own labor. I have paid for day laborers, according to my account, sixty-three dollars and fifty cents only. You will notice the amount of labor performed with little help, and little expense; but I have yet considerable more to do,—I have yet to cut, I think, more than ten loads of rowen hay, and intend to sow a number of acres of late rye. Having made no cider the last year, I made trial of molasses and water, but all would not do, I was obliged to furnish a little ardent to my day laborers to get through haying and harvesting; the precise quantity I do not know, but I think it would not amount to more than twelve or fifteen dollars. To recapitulate,—

| | | | | |
|---|---|---|---|---|
| 58 | acres of meadow mowed and | produced | 129 | loads hay. |
| 20 | do. of rye | produced | 4568 | sheaves. |
| 3 | do. winter wheat | do. | 911 | do. |
| 14 | do. oats | do. | 3080 | do. |
| 2 | do. spring rye | do. | 601 | do. |
| 2 | do. marrowfat peas | do. | 12 | bushels. |
| 1 | do. buck wheat | do. | 17 | do. |

| | | | |
|---|---|---|---|
| 2 | do. white beans, | | |
| 3 | do. potatoes | do. | 836 bushels. |
| 4 | do. corn | do. | 450 do. |
| 5 | do. ruta baga | do. | 500 by estimate. |
| 15 acres let out on shares, the produce not yet ascertained, except | | | 1347 sheaves. of oats. |

The residue of my farm is wood and pasturage.

In this statement I believe I have not overstated or over-rated any item; and I am inclined to think that my corn, which we completed last evening, if accurately measured by stricken measure, would hold over something like a half of a peck to the basket, which we heaped.

I am, dear sir, very respectfully, your
obedient humble servant,

JONATHAN ALLEN.

*Berkshire, ss. Pittsfield, Sept.* 29, 1831.—Then the above named Jonathan Allen personally appeared, and made oath that the foregoing statement by him subscribed, is, according to his best belief and knowledge, true.

JOSHUA DANFORTH, *Justice of the Peace.*

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## REPORT OF THE COMMITTEE ON EXPERIMENTS, DISCOVERIES AND INVENTIONS—TREES, LIVE HEDGES, &c.

The Committee of the Massachusetts Society for promoting Agriculture, to whom were referred claims for premiums for experiments, inventions, and discoveries, as also for plantations of forest trees and apple trees, and other descriptions of agricultural industry, as specified in their list of premiums, beg leave to report; that there were no premiums claimed for experiments in turning in green crops as manure, nor for the successful use of the drill plough, in the cultivation of any small grain or seeds; but there were two claims for the third premium offered by the Society, under the head of experiments, inventions and discoveries; viz. For an effectual and satisfac-

tory mode of *destroying* the bee-moth, or of *preventing* its ravages. It will be obvious that the two branches of this subject are essentially distinct. To *destroy* the moth by any artificial process, is radically and substantially different from *preventing* its ravages, or its access to the hive. Both would be equally useful, if the end should be obtained, which is protection; but it is obvious that the means may be, and (we may almost say) *would* be essentially different.

The first communication received on this interesting but difficult subject by the Committee, was from the venerable Dr. James Thacher, of Plymouth. This paper was worthy of the good sense and well known research of the author, and did not in any degree diminish the respect which the Committee felt for this veteran promoter of all the arts subservient to the cause of agriculture. In examining it, however, with the care and exactness which their commission required, they could not perceive that it fulfilled the conditions, on which alone their authority reposed, to wit, "an *effectual* and *satisfactory* mode of *destroying* the bee-moth, or of preventing its ravages.

The Committee might rest here, and rely upon the conviction, that they had exercised their judgment with due discretion; but they owe it to Dr. Thacher, and to the public, to state the grounds on which their opinion was founded. As to the first branch, Dr. Thacher seems distinctly to admit, that he knows of no "*effectual and satisfactory*" mode of *destroying* the bee-moth, and seems to consider it as a desideratum not yet obtained. He does indeed suggest the idea of destroying the bee-moth by solutions of sugar with poison; but, besides that the same remedy may be equally fatal to the bees, it must be in its nature imperfect.

We have no evidence that the bee-moth has so strong a desire of food, as to counteract the more powerful influence of its instinct, to place its eggs in places adapted to its future progeny. In short, though it is the suggestion of an ingenious mind, employed in speculations for the public good, yet as to

its "effectual and satisfactory operation," there is too little evidence offered.—Upon the second branch of the premium, that of prevention, Dr. Thacher proposes an inclosed apairy. There is no doubt that an enclosed apiary forms some check to the ravages of the insect. But then it should be considered, that apiaries thus inclosed have been in operation for thirty years past, and have proved neither "effectual or satisfactory."

Dr. Thacher indeed alludes to a grating placed before the hives at night, but gives no definite mode of applying it. This remedy is much more fully developed in the next communication. Though we are compelled to say that Dr. Thacher has not afforded an "effectual and satisfactory" mode of preventing the ravages of the bee-moth, yet for his continued labors and research on this interesting subject, the Committee recommend to the Trustees that a gratuity of ten dollars be paid to him.

The only other communication on this subject, is from the Rev. J. R. Barbour, of Newbury, (Byfield.)

This communication is very elaborate, interesting and important, shewing great perseverance, accuracy, and uncommon practical observation, as well as mechanical contrivance. It would be impossible for the Committee to do any thing like justice to the plans and suggestions of Mr. Barbour, in any abstract which they could make, and they would therefore recommend that the whole communication from him, together with the letter of Mr. Parsons which accompanied it, should be published in the Journal and New-England Farmer. This great advantage would be derived from it, that if the Committee have erred in their opinion as to its title to the premium offered by the Society, ingenious persons may be induced to try his plans, and experience may show that the difficulties which present themselves to the Committee are not well founded.—Mr. Barbour's communications have reference to two distinct points.

The first, to the prevention of the ravages of the bee-moth —the second, to the more easy and effectual acquisition of the labors of the bee, without their entire extermination. As no

premium has been offered for this, the most interesting part of Mr. Barbour's discoveries, we might pass it over in silence ; but such a course would not suit either our feelings, nor comport with our duties. We feel ourselves then bound to say, that Mr. Barbour's suggestions and plans appear to us to be very ingenious and important, and we recommend them to the attention of those who cultivate bees,—and as a proof of our estimate of their ingenuity, we recommend to the Society, to pay to Mr. Barbour ten dollars, being the half of all the premiums offered on this subject, and that he be requested to permit his apparatus, transmitted to us, to be exhibited in the Agricultural Repository in Boston, under the management of Mr. Newell. The other branch of Mr. Barbour's inventions, or claims, respects the prevention of the entrance of the bee-moth into the hives, by a screen of millinet, to be put up every evening, and to be removed every morning. Such a remedy would appear perfect.—Why then not grant the Society's premium ? We reply in few words. First, because Mr. Barbour has the candour to admit, that the suggestion came to him from the Rev. Mr. Noyes, of Needham. We are not told how far this suggestion went, but we are led to believe that Mr. Noyes was the inventor. Secondly, because we seriously doubt, whether a remedy, which requires attention twice a day, is fitted for common use. Yet as the first suggestion of a mode, said to be effectual, if men will be scrupulous in its application, came first before the public through Mr. Barbour, we recommend the grant of a gratuity to him of ten dollars. But in this gratuity, justly due to an ingenious man, who has devoted his time and learning to a subject very interesting to the cause of agriculture, we are constrained to say, that it is not certain at what hour the bee-miller takes its flight. An omission of one half hour may be fatal. If, as is asserted, and as is probable from analogy, a single miller lays 500 eggs, it may prove as fatal to a hive, as if there was a free intercourse.

We admit that these precautions, sedulously and scrupulously followed, might be effectual. But it should not be for one

moment admitted, that as a general, or universal practice, it would be available.

The next application which has been made for a premium, is for an effectual and satisfactory mode of extirpating the worm which attacks the locust tree. The only applicant for this premium is William Bacon, Esq. of Richmond, Berkshire county. The experiments of Mr. Bacon are exceedingly interesting, and we hope that others influenced by his example will pursue the same course. There can be no doubt that the cautious stoppage of all the apertures, by which the locust borer either enters or makes his exit, would materially lessen its depredations; but our objections to granting a premium for this discovery are, first, that he had disclosed his discovery (if it be one) to the public in the New-England Farmer, vol. ix. No. 3; and it was not the purpose of the society to grant premiums to persons who, from enlightened and liberal views, had already disclosed their discoveries.

Secondly, they can perceive little distinction, between Mr. Bacon's experiments, and those of General Dearborn, long since given to the public on the same subject. Lastly, extensive experiments by some members of the Committee have satisfied them, that no local application to the *root* or the stems, or lower branches, can be, in any important degree, a protection against the borer of the locust-tree, which chooses in preference the young branches of the present year's growth.

The Committee feel the great importance of procuring a remedy for this deplorable evil, which deprives the State of the most valuable of its forest trees, so important in naval architecture. Scarce any sum would be too great an expenditure, which would banish this destructive insect, as our climate is as favourable to the culture of the locust tree as that of the Middle or Southern States; but a knowledge of the ravages of the insect, brings them to the conclusion that the remedy proposed by Mr. Bacon, is not so *effectual* or *satisfactory* as to justify them in awarding to him the Society's premium, though

he merits their thanks for his experiments, and the laudable spirit which gave rise to them.

The only regular, and certainly the most meritorious application for premium, "on the best managed apple orchard," was Captain John Mackay's, whose mode of treatment is set forth in the subjoined communication.

His orchard in Weston, was visited, and carefully inspected. It is on a side hill, with a gradual descent inclining to the north.

The soil is a heavy dark loam, originally very rocky. The trees (about one hundred and forty in number) cover about three acres of ground. Their distance from each other is two rods. The trees, it appears, were set out partly in the spring of 1823, and partly in the spring of 1824; the ground, having been previously ploughed, was kept up till 1827. Since then, they have been hoed round twice a year. Their appearance was certainly very thrifty, with a smooth bark, and every indication of careful attention. Their measurement was generally from twelve to fourteen inches.

In noticing Mr. Mackay's method, it cannot be doubted, that a slight movement of the surface, oftener than he practised, would be expedient, even four or five times a year, as having a tendency to discourage weeds, and the encroachment of the grass sward, as well as to facilitate the passage of the dews and showers to the roots; whilst the aggregate labor would be little increased thereby.

That this should not have forced itself into observation, can only be accounted for, by the fact, that in the use of ashes, the invariable production of weeds, consequent on the application of barn manure, was avoided. It may be doubted also, whether the stimulating principle in the wood ashes, to the extent of one peck to a tree, every other year, was the best course of procedure. The process of vegetation is gradual, but constant and never ceasing. The means of fertile growth, therefore, should be in reference to this order of nature. An annual dressing seems most fitly to conduce to the mixture and enrichment of soil, the process of fermentation, and the best sup-

ply for vegetable growth. It would therefore follow, that a supply of a less quantity, annually afforded, would be better, and safer, as the danger of sudden excess, often injurious, would be avoided. To what extent ashes, or other stimulating principles, may be applied, can only be determined by careful experiment: that the former has been recommended, and used to advantage of late, by many cultivators, is well known. Many too suppose, that the volatility and pungency of their salts are offensive and discouraging to the approach of the borer, and all insects, vermin, &c.

The general result, from personal examination made by the Committees on premiums for the best managed apple orchards in this vicinity, for several years past, have most satisfactorily evinced, how invariably, in eight or ten years, an orchard may, with proper attention, be brought forward from the seed into good bearing. The practices, in which these skilful cultivators appear to concur, may be briefly stated. First, to be careful not to set the tree beneath the upper stratum of earth or black soil. To go deeper is to insure the canker and a diseased condition. In a light soil, a burrow or two of stones, beneath the upper stratum, prevents the passage of the roots into a poorer soil, whilst it supplies moisture, when most needed; and artificially, in part at least, affords that advantage for which a rocky soil is invariably distinguished. Secondly, to have the land previously ploughed, and kept up for two or three years, taking care not to disturb the roots. After this, the land may be laid down to grass, and the surface near the trees occasionally slightly stirred, to prevent weeds, and give a more ready passage of air and water about the root. Thirdly, about eight shovels of compost manure, or five or six quarts of ashes, may be put to advantage at the root, and spread about in the Spring.

To keep an orchard in a good bearing state, when it is deemed inexpedient to plough from a fear of injury to the roots, the land should be kept in good condition from frequent top dressing.

As to the applications to the body of the tree for a defence against vermin, &c., the subject is in a course of experiment.

The rubbing with a coarse cloth with soap and sand, and a wash with waste soap suds, appears both beneficial and economical.

A wash also has been in use by many, and it is highly recommended by the Messrs. Winships, "as preventing the destructive effects of the borer, killing the moss, and destroying other insects which injure the health of the tree, and giving vigor thereto. We recommend, say they, one pound of potash to three quarts of water, to be laid on with a brush.*

A coat of lime and cow-manure was used by Mr. Mackay, mixed with clay, one third each, brought to the consistency of a suitable wash to be applied with a brush. This is in frequent practice, and has been thought well of, as discouraging to insects. It may be a proper consideration, whether in the use of materials on the bodies of trees, in washes, there has not been some excess?—Can the color of the bark be so unnaturally changed to a yellow hue, without injury? Or is the effect so superficial as not to deserve regard?

Although the Committee do not feel authorised upon the principles which guide the Society, to recommend that a premium be awarded for this brief communication, they yet, for the presentation of this important subject to notice, with the degree of care and skill evidenced by the thriving condition of his orchard, recommend that a gratuity be paid to Captain John Mackay, of twenty dollars.

In the visits made to several successful and highly skilful cultivators of the apple orchard,† it was lamentable to observe that in most situations the borer had made his deadly visits. As a preventive, lime at the root has been recommended.

* See Mr. Wheeler's communication in the New-England Farmer, vol. iv. page 348; also Messrs. Winships', vol. viii. page 234.

† The orchards of C. Davis, Esq. Roxbury; A. Baldwin, Esq. Milton; Col. Phinney, Lexington; Mr. Harding, Waltham, and Mr. Crosby, of ——, all of which indicated most skilful management.

But the insect goes higher up. Some of our Trustees have cased about the stem some way up with lime mortar; but here the same objection applies, and nothing short of a complete envelopement of the trunk would seem to be wholly effectual.

In closing their report, the Committee are aware of the motives which induced the Society to lessen the frequency of Cattle Shows, with a view of applying the funds to certain objects in agriculture, which recent discoveries in science and the arts have made interesting.

It is with regret, therefore, that they are obliged to state that notwithstanding the offer of the whole income of the funds of the Society, as well as what arises from the liberality of the State, they are not able to present to the public more multiplied experiments on the various subjects submitted to them.

The ploughing in of green crops is important, and occupies much attention abroad.

The subject of live hedges must in many parts of the country become prospectively important, so also the ingenuity of our manufacturers might present many improved implements of agriculture. To all of which subjects attention was invited, and liberal premiums offered.

The novelty of the mode may perhaps in some degree account for this, and the Committee can only hope that our intelligent husbandmen may more readily show forth their good practices, for which it is well known many of them are so distinguished.

By order of the Committee.

*Boston, Jan.* 14, 1832. JOHN WELLES, *Chairman.*

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## BEE-MOTH.

***The best method of destroying the Bee-moth, or preventing its ravages among Bees.***

The whole tribe of moths and butterflies propagate their species by eggs, which the females deposit in situations and substances, in which the offspring caterpillar may find its appropri-

ate food the moment it is disclosed. The female moth is endowed by the all-wise Author of its existence, with a most wonderful sagacity and skill, in anticipating the wants of the young grubs, when they escape from the eggs, and have no mother to direct or provide for them. The numerous species of moths and butterflies seldom live more than a few days after depositing their eggs for a future progeny. The period at which the eggs are hatched after deposition, depends much on the temperature of the atmosphere; by exposure to the cold of an ice-house in summer, the hatching may be retarded, as it may be hastened by a heated atmosphere in winter or Spring. In general, the eggs of moths remain locked up during winter, in the secure spot which the mother insect had selected, and are hatched into grubs or worms by the genial heat of Spring.

The silkworm moth, when unrestrained in its natural habits, deposits its eggs on the leaves of trees, and carefully glues them to the leaves, that they may not be shaken off by the wind or washed away by rains; and the larva, as soon as disclosed, finds its nutriment in the leaf by which it is sustained. The moth that produces the caterpillar (*Phalæna Neustria*), and that which produces the canker worm (*Phælana Vernata Peckii*), attach their eggs to the branches of fruit trees, that the ensuing vernal heat may bring the young brood into existence, where they find their food in the buds and leaves just expanding. The moth, from which comes the worm called the borer, and the insect from which proceeds the peach tree worm, deposit their eggs on the bark of trees, that the larva may penetrate into its substance for support. The mischievous curculio stings the young fruit, and deposits its eggs where the young maggot will find its nutriment, and at the same time its vehicle to convey it to the earth for a more permanent residence. The diminutive moth, whose progeny preys upon woollen cloth, selects that article as a nidus for her eggs. To these instances numerous others might be added.

The true bee-moth, according to Dr. T. M. Harris, the *Phalæna Tinae Cereanea* of Linnæus, is a native of Europe,

but has been introduced and naturalized in our country. This insect makes its appearance in April or May, according to the warmth of the season, and continues its depredations among bees till October. It appears in the form of a small miller or nocturnal butterfly, the same that we see fluttering about our lights in a summer's evening. It is smaller than a bee, of a greyish colour, paler towards the head, glossy brown or purplish near the outer margin of the wings. They have four wings, but seldom soar high in the air; they are frequently seen attached to some substance, apparently motionless, but on the approach of danger they instantly leap off with great rapidity. These pernicious insects discover a peculiar disposition to molest bees, and propagate their species in bee-hives. They lie concealed in the grass during the day, and effect their mischievous purpose in the night; when, by the aid of a light, they may be seen in great numbers, hovering about the apiary, to which they are allured by the sweet odor from the hives. The female moth makes every effort to deposit her eggs within the hive, but failing to find admittance she lays them about the lower edges and crevices as near the entrance as she can, and it sometimes happens, probably, that they are carried into the hive by the legs of the bees. The eggs are, according to the course of nature, hatched into caterpillars or worms, having sixteen feet and a reddish head. These creatures soon wend their way into the hive, and not unfrequently they have been known with their strong jaws to cut a channel of their own size through the substance of an inch board, to obtain admittance. These worms, when arrived at maturity, construct an oblong oval pod or cocoon, in which they envelop themselves. In this situation they continue to enlarge and extend their covering, leaving an opening for the head; and while in their armor, thus formed, they are perfectly secure from any annoyance from the bees. They feed on the wax and comb, devouring and gnawing down the cells which contain the eggs and the young bees, until they are wholly destroyed. At length the caterpillars are changed into a chrysalis state, their bodies are con-

tracted within their cocoon, they cease to feed, and in due time are transformed into a winged insect, the true bee-moth. Here the insects continue to increase in numbers, till the whole order and economy in the domicil is interrupted; and the bees being overpowered, either die, or in despair quit their hive to the enemy, the first or second year of their attack. The moths disclosed from the cocoons seek an exit from the hive, when they couple, and the females having deposited their eggs in a suitable nidus, soon perish, leaving in the hive in autumn a numerous progeny to be transformed into their perfect state in the ensuing spring. The moths thus transformed pursue the same train of actions to propagate the species, which had been pursued by the parent insects of the preceding year, and it is not improbable that two or more generations are reared in succession the same season. These destructive insects are more prevalent in some local situations than in others; in some places the stock of bees is entirely annihilated, and all attempts to cultivate them are abandoned. The female moth is remarkably fertile, laying 400 or 500 eggs in a season. The precise time when the female deposits her eggs, and the time required for their hatching, has hitherto eluded my research, but I have known moths to appear early in April, and at one time have seen a worm thrust out of a hive by the bees in the month of March. The process both of hatching and transformation, is promoted by the heat within the hive. There is always in the hive with the moths and grubs a quantity of web resembling that of the spider, the use of which, as I conceive, is to entangle the eggs, to prevent them from being spread abroad and lost, and to serve as a sort of cradle for the young grubs. About the middle of May 1828, I perceived on the floor-board of a hive, a mass of web in which were numerous grubs, from the size of needles' points to that of half an inch in length. When this web is observed in or about a hive, it may be certainly known that the hive is infested with the insects. I enclosed a number of the full-grown caterpillars in a box for experiment. They immediately spun their cocoons, in which they enveloped themselves, and in this chrysa-

lis state they remained till July and August, when they made an aperture with their head, through which they escaped, and, expanding their wings, launched into the air. Thus the disgusting caterpillar, which so lately crept on sixteen feet, now is seen to fly with that gracefulness and ease peculiar to the butterfly, one of the most elegant and active of the winged insects. Here we may recognize the Deity in his wonderful works!

In October, 1830, I took from a bee-hive which I purchased, about twenty cocoons containing chrysalis, put them into a box glazed on one side, and kept them in a moderate temperature through the winter. In the months of July and August they were transformed into winged moths, a part of which were double the size of others, probably designative of the different sexes; but I was surprised to observe one among them a beautiful snow white miller.* I put a quantity of honey-comb in the box, with the hope of procuring a nursery, that I might be able to discover their habits and mode of propagation; but they survived but a few days.

*Methods by which the Bee-moth may be destroyed.*

The extermination of this destructive species of insects is absolutely impracticable, by any means that art can devise; but their number may be considerably diminished in any local situation, and their ravages among apiaries may be entirely prevented. Bottles, with a little honey or syrup at the bottom, placed near the hives, will entrap multitudes. If open shallow vessels, containing a mixture of sweetened water, to a pint of which a gill of vinegar be added, are placed within their range, they will be enticed to sip the liquor, by which they will become intoxicated and drowned by hundreds. They should be burnt the next morning, lest by the heat of the sun and air they become resuscitated. If lights were placed near the hives, a still greater number would be allured to the traps, where they may be destroyed. When these insects have got possession of a hive, they cannot by any means in our power be expelled; the only

* Probably another insect of different habits.

remedy consists in the removal of the bees into another hive. It would be preposterous to suppose that any article could be applied to the insect, while in its cocoon in the interior of the hive, that would effect its destruction. Common salt has been recommended, but I have enclosed the worms in a box containing marine salt, and they have covered themselves with their web, and remained there about six months, when they were transformed into the miller. I have put them into a solution of alkaline salts, and even potash, and they have escaped with impunity.

Knowing, therefore, the inutility of all our means to effect the destruction of the bee-moth, it only remains to describe the most effectual expedient to prevent its ravages among our apiaries.

A proper understanding of the instinctive habits of the female moth for the propagation of her species, will indicate the most successful mode of procedure. It has been already observed that the female selects an appropriate situation as a nidus for her eggs: she discovers a partiality for the floor of the bee-hive, anticipating the sweets of its contents for her dainty offspring. Secluded from the interior of the hive, she deposits her eggs about its edges and in crevices as near its entrance as possible, trusting to the instinctive faculty of her progeny to seek their way into the hive. From all my observations, I have not been able to discover that moths enter bee-hives by the common entrance. The bees have constantly stationed at their avenue a powerful and vigilant guard, and on the approach of a moth, a mutual alarm and commotion is observable, and the assailant is soon obliged to retreat. In locations, however, where moths are very numerous, they may out-general their opposers, and obtain an entrance. From the foregoing considerations it must appear obvious, that the only effectual method to secure the hives from the ravages of the great enemy to bees, consists in a close house, to seclude them from all access. This unquestionably affords the only defence, and combines all the requisite advantages. From three years experience, I can affirm that this plan

has answered my full expectations, and I can rely upon it as a perfect security. I have no reason to suppose that my apiary is in the least infested with the insects. The form and dimensions of the house which I have found convenient, is in length proportioned to the number of hives which it is to contain. The width is about 18 inches, and the height about two and a half feet for a single tier of hives, with a roof slooping in front. The front part should be entirely closed, having apertures at proper distances to correspond with the mouths of the several hives to be placed within. The outlet from the hive, and from the house, should be a little sloping downwards, that the bees may with greater facility remove obnoxious substances, and be better enabled to defend themselves against their enemies. The whole wall on the back part should consist of doors furnished with hinges and fastenings. The house is to be placed on posts about two and a half feet high, set into the ground, and secured from being turned over by the wind. The doors may be shut or left open in the day, as circumstances may require, both winter and summer; and if thought necessary, a grating may be placed before the avenue at night. Instead of the house just described, the hives might be placed in an upper apartment in an out-house, and the height from the ground would afford additional security against the moth. As a further precaution, it may be recommended to whitewash the front of the house, and the floor-board, which should also be changed frequently.

I subscribe myself the Committee's very humble servant,

JAMES THACHER.

*Plymouth, October 30th*, 1831.

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[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN—With this is forwarded, for your examination and disposal, the model of an Apiary, designed to guard the bees within from the bee-moth. The distinguishing principle of this apiary is, that with the aid of frame doors, covered with millenet, the miller is effectually shut out of the house, while the bees are not at all injured from the want of air. For the principle,

I acknowledge myself indebted to the Rev. Thomas Noyes, of Needham. I will describe the apiary as built for two Charlieshope hives. It may be made longer, so as to admit any number of hives.

1. Two planks, 5 feet and 3 inches in length, and 1 foot and 8 inches in width, are placed perpendicularly in sills 6 feet in length. These planks form the two ends of the apiary.

2. The length of the apiary for two hives should be 4 feet outside. A partition board in the centre divides the house into two apartments, 21½ inches wide.

3. The roof is double, and made to be put on and taken off at pleasure. It is fastened with four iron pins, and at each corner. It must be taken off, in order to put in or take out the hive.

4. The bottom, or floor, is inserted 4 inches from the sills.

5. In the back, two doors are inserted against each apartment. The upper door is for the purpose of examining the bees through the glasses in the hive. The lower for admitting a free circulation.

6. In front the apiary is boarded down within 18 inches of the bottom. A *cant* is here inserted, 8 inches wide, to throw off the water. The space below is filled with a movable frame, covered with millinet—to be put in a little after sundown, and removed before sunrise, through the miller season. Parallel bars are inserted in each apartment between which the hive stands.

In the model, the cedar blocks represent bricks, on which the sills stand. There are holes in the ends of the sills with pins, which are to be driven into the ground, that the apiary may stand perfectly firm.

With the model of the apiary I send also a model of the Charlieshope hive, and a model frame for the convenience of moving it.

### REMARKS.

1. I think it would be an improvement in this apiary, to have the roof permanent, and the bar in the back movable, so that

the hive can be set in, or taken out, by simply removing the bar.

2. It is essential, that every part of the apiary be made tight; and that it may continue so, it should be well painted.

3. For two seasons I have used an apiary, not constructed after the model which I send you, but embracing its *distinguishing principle*, that is, the millenet doors; and am satisfied, that it is an effectual security against the miller.

4. The Charlieshope hive I think preferable to any other that I am acquainted with, in regard to its shape. But the Thacher hive is rather preferable in this particular—that of taking away the surplus honey. I have, therefore, made and used a hive combining the distinguishing principles of both; that is, having the wedge bottom, and drawers in the top. In some, I have two drawers, and in others but one, that being made to fill the whole space. I have glasses in the lower part, and also the drawers.

I am, gentlemen, your obedient servant,

J. R. BARBOUR.

*Newbury* (*Byfield*), *Nov.* 10, 1831.

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[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN—Accompanying this, I forward, for your inspection and disposal, the model of an apparatus, which I have prepared, for the purpose of transferring bees from one hive to another, with water. The apparatus consists of the following parts, which, for convenience of description, I have named thus:—

*C—Cistern*, to receive the hive to be operated upon. It is 30 inches in height, and 20 inches square.

*T—Tunnel*, fitted on the outside of the cistern, to convey the water to the hive.

*F—Follower*, to rise and fall in the cistern. It has an opening ten inches square in the centre, covered, on the upper side, with sheet-iron slides. There is also, on the upper side, a set of handles. It is two inches thick on the sides, made sloping

on the under side, to the centre, in order to assist the bees in keeping out of the way of the water, as it rises upon them. On the opposite sides of the *follower* are fastened leather straps, an inch wide, with buckles with which to confine the hive to the *follower*.

*R—Receiver*, into which the bees are driven. It is 20 inches in height and 10 inches square, corresponding with the opening in the *follower*, to which it is fastened with cleets and buttons, and can be taken off, and put on, at pleasure. There is a set of slides at the bottom of the receiver, corresponding with those on the follower. In the top of the receiver is a chamber, to receive the bees that may happen to get into the water, and come out torpid. A perpendicular board, with holes in right lines in the centre of the lower room, serves as a support for the slides, and also to assist the bees to keep out of the water. A slide in the top, opens into the chamber. A partition slide opens a communication between the chamber and lower room. There is also a slide in the side of the receiver, at which to let out the bees into their destined tenement. Two panes of tin, 7 by 5 inches, with holes punctured, inserted in opposite sides of the receiver, serve to admit light and air.

*Directions for using the above described apparatus.*

1. Let the hive to be operated upon, be removed some distance from any other, and stand there long enough for the bees to become perfectly wonted to the localities of the place.

2. The evening (or some evening) before you design to operate upon the hive, raise it gently and place under it the follower, *bottom side up*—the slides being carefully closed and fastened.

3. In the morning, if the weather be warm and pleasant, stop the door of the hive, and with clean linen rags cork every place where a bee can pass out. With the straps confine the hive to the follower. With a gimblet bore six or eight holes in the side of the hive near the top to admit the water. As the comb

is usually put up in parallel sheets with a space between, it is best to have the water admitted into each space.

4. Take the hive thus prepared from the stand, and, by the handles upon the follower, set it gently into the cistern.

5. Take the receiver, with all the slides carefully closed, and place it upon the follower, and turn the buttons.

6. Draw the slides in the follower and the corresponding slides in the bottom of the receiver, and permit the bees to pass up. This they will be glad enough to do, when they perceive the water coming in upon them, which is the next thing to be done. Pour the water slowly into the tunnel until it overflows the slides in the receiver.

7. Close and fasten the slides of the receiver and take it off. Raise the hive from the water, remove the follower, invert the hive over the cistern, and a few raps upon it will bring out the bees that may remain in it in a torpid state. Perhaps a wing, or soft brush, may also be useful. With a common kitchen skimmer, take the torpid bees from the water, and put them into the chamber prepared for their accommodation. Draw the partition slide, and thus admit the wet and dry bees together. The heat of the family will soon restore the torpid ones to animation.

8. Take from the old hive pieces, (more or less as you may choose) of good broad comb, and put them into the hive designed for the habitation of your bees. This may be done by running a rod or rods through them.

9. Place the receiver horizontally upon the stand where the old hive stood. Set the new hive upon it, draw the slide designed for the purpose, and your bees will pass up, and joyfully take possession of their new home. If, however, they show any reluctance in regard to going up, apply a little water with a grape vine syringe, or with your hand, and they will soon yield to your wishes.

10. When the bees have all passed up, remove the receiver, and your work is done. Some special care, however, is necessary for a time in guarding them from robbers; as their cour-

age is, in a measure, prostrated, and their fighting propensities subdued, by the influence of cold water. It will be a month or two before they will be as prompt in self-defence as formerly.

*Occasions in which this Apparatus may be useful to the Apiarian.*

1. When he has a stock of bees infested with the bee-moth. As there is no way known by which to expel the moth, unless the bees can be removed to a new tenement, they must be sacrificed.

2. When the hive becomes old and decayed, and a new one is desirable.

3. When his bees are in an old-fashioned box-hive, or hollow tree, and he wishes to have them in one of the newly invented hives.

4. When, in the autumn, he wishes to take the honey from any hive, and yet save the bees. If he has a stock that is feeble, or not above mediocrity as to numbers, he can unite the two; and he will probably have in consequence one more new swarm the coming season.

5. When he has a stock that has become old, the comb thick, and black, and dirty, and the cells small, he can remove his bees to another habitation, and they will begin life anew; the same, for aught I can see, as a new swarm. This fact, however, can be satisfactorily tested only by further experience. My present opinion is, that it would be desirable to give bees a new and clean tenement to dwell and work in, as often as once in four or five years.

*Origin of the Apparatus, and cases in which it has been used.*

In April, 1830, I purchased a stock of bees, the best that I could get, but it was a very old one; the hive a clumsy box, and withal rotten, and what was worse, I soon found it full of worms. Believing that I should lose my bees unless I could get them into a new tenement, I undertook to transfer them into a Thacher

hive, according to the directions given in Thacher's interesting treatise on bees; that is, by drumming them out: I made three attempts without success. The last time, I said to the young man assisting me, (Mr. Sewell Dole, of this parish) that I might as well lose them one way as another, and we would see what could be done with water. Accordingly, we took a large tub, set the hive inverted into it, with the new one on the top, and filled the tub with water. The bees passed up. We then removed it to the old stand, having put a slide under to confine the bees. We put the torpid bees and a piece of broad comb into one of the drawers, and left them. This was done in the evening of May 20th, 1830. The next morning, by a little after sunrise, the bees were at work finely. In September following I weighed them, and found they had made 44 lbs. of honey and wax. August 12th, I procured and treated another old swarm in the same way; and another August 14th. But in all these operations there was one special difficulty; the difficulty of fitting the new hive to the old one, so as to confine the bees. Indeed we could not do it effectually. Many would escape. Of course we were constantly annoyed by their stings. Yet three things were proved,—1st, that water will expel the bees. 2d, that the honey is not injured or wasted by water, as the honey-cells, as soon as filled, are all sealed. 3d, that there is no danger of drowning the bees, as the few that were found in the water torpid were easily resuscitated. These facts led to the construction of the apparatus. It has been used with entire success in the following cases.

1. In June last, a part of the apparatus was used in transferring a swarm belonging to Dea. Isaac Platts, of New Rowley. They were in a hive larger than the cistern, and of course the cistern could not be used. The lighting board was nailed to the hive, the hive inserted in a hogshead, an opening eight or nine inches square sawed in the board, and as the piece cut out was removed, the receiver was slipped over. Water was then applied, and the bees passed into the receiver, and were

thence removed to their new home without difficulty. No person was stung during the operation.

2. Early in July, the apparatus was used in transferring a stock belonging to Mr. Ebenezer Steadman, of Newburyport. His hive was inverted the season previous, and an empty one set on the top, into which the comb from the old hive had been extended. The separation of the two hives exposed the operators to some stings; but when this was done, the transfer was easy. Mr S. informed me, a few days since, that his bees had done well, except that they had been annoyed by millers.

3. July 12th, I transferred a stock of my own. It was in a hive of common dimensions, and the transfer was entirely easy. A number of friends were present, and some children, but no one received a sting.

4. In the early part of September, a part of the apparatus was employed in transferring a swarm on the farm in this parish, belonging to Gorham Parsons, Esq. of Brighton. This swarm, the season previous, had taken possession of the roof of the apiary, and commenced building their comb. Mr. Parsons built a box around them, which they had entirely filled. They were removed in this manner: the apiary was inverted, and stiff clay placed around the box containing the bees, so as to make it water tight. An opening eight or nine inches square was then sawed into the bottom board, and the receiver set over it. With a tin tunnel the box was filled with water, and the receiver removed. When the box was taken in pieces, $\frac{19}{20}$ths of the bees were found within in a torpid state. This was owing to a board, unknown to the operators, lying nearly parallel with the bottom of the box, which completely blocked up the passage of most of the bees. They were however carefully collected and put into the chamber of the receiver, and soon revived. There is reason to believe that the queen was drowned, and put into the chamber wet and torpid along with her subjects, for the bees gathered into the chamber, nor could they be induced to leave it until the next day. Then by setting the receiver upright, drawing all the slides, and thereby letting in the light

and air, they left the chamber, and took possession of their new tenement. They immediately commenced building their comb, and worked well for a fortnight, when they were attacked by robbers, and destroyed.

5. A lady (Mrs. Kent) in my parish, having a swarm which she was expecting to smother for the sake of their honey, was induced, from motives of humanity and personal kindness, to present them to me. September 20th, I rode to her house before breakfast, took the bees into a receiver and brought them home, and united them with the stock which I transferred July 12th. The union was effected by setting the hive upon the receiver and drawing the slide. Nor did the tenants of the hive refuse them the hospitalities of their house. Professional duties called me away immediately after breakfast, and I did not return until evening: so that I failed to witness the battle of the queens, if there was one. When I returned, every bee had gone up, and all was perfectly still. Mrs. B. had watched them quite attentively through the day, and saw no signs of contention among them at any time. Both swarms were old, and rather small, but united they make a fine stock.

### *Miscellaneous Remarks.*

1. I am somewhat at a loss to determine at what season of the year it is best, on the whole, to transfer bees. Several things are to be considered. If you transfer a stock early, say in May, they will "begin the world again" the same as a new swarm, having the whole of the honey season before them. But in this case you will destroy many young bees, partly grown, and lose a swarm which they would probably have thrown out if they had stood undisturbed until July or August. Yet if they stand thus long, you may probably get a new colony; but the old one, if it is then transferred, must be liberally fed. This point is clear, that no swarm ought to be disturbed after the middle of June, unless the owner is willing to be at the expense and trouble of giving them back 25 or 30 pounds of the honey taken away, or some other. But if a stock is

much infested with worms, it is best, I should think, to transfer it at any time, even as late as October.

2. I have found the Havana honey to be a very cheap and excellent thing to feed with. As it is usually candied, I take it, and put a little water with it, and set it by the fire until it nearly simmers. This dissolves all the sugar particles.

3. In feeding, special care must be taken that the bees do not get into the honey, and perish. There are two methods which answer the purpose entirely. One is, to pour the honey slowly over dry comb until the cells are full, and no more. The bees will take it out of the cells without getting into it. The other is, to make a wooden dish perfectly true, with a very thin floating wooden cover, having many holes in it. Put the honey into the dish, and the bees will extract it through the holes.

4. In feeding, special care should be taken to keep away the bees of other hives. For this purpose, make a tight box of the size of your hive, and 6 or 8 inches deep. Let there be a hole in the top large enough for the bees to pass up and down with facility, and a door in the front side. Set the hive on the box, and at the door put in your comb upon a plate. The bees will pass down and carry up the honey, and lay it away for their winter's store. It is best not to open the box except in the evening, or early in the morning, lest other bees should find the honey, and be tempted to rob the swarm you are feeding.

5. As to the time of feeding, it is best to commence immediately after your stock has been transferred, even if it is in August or July. I am satisfied that none of my bees the two past seasons gathered honey enough to live upon through the months of July and August. In September they did better. And further, when a stock has been transferred after the honey season is past or nearly so, finding themselves reduced to a state of entire bankruptcy, and little or no business abroad to be done to repair their broken fortune, they settle down in heartless despondency, and die. This is not theory, but fact. The middle of August, 1830, I transferred two swarms,

as already mentioned, and left them to take care of themselves, expecting that they would get their living for a time, and something more. But they were dispirited and inactive; and before I was aware of it, one halfor t wo t hirds of the bees in each hive were dead. I then united the remnants of the two stocks, but it was still a dispirited colony. Some time in the early part of September, I began to feed them. This at once threw life and animation into the hive. They carried up 15 or 20 pounds, and upon this they lived through the winter. Many more of the bees I lost in feeding, by their getting into the honey, before I had learned how to prevent it; so that my stock came out very slender this spring. But they have done tolerably well this summer.

The stock that I transferred July 12th of the present season, and to which I united another, September 20th, as already stated, I commenced feeding immediately, and fed them as often as once or twice a week until the union. From that time to the present, I have designed to give them daily all the honey they would carry up, which has been about 30 pounds. They have, therefore, been vigorous and active all the while, and are now well furnished for the winter. If I transfer another stock after the middle of June, it is my design to give them daily all that they will eat and carry up for the rest of the season. As I use the Charlieshope hive, I should like to have a stock fill the lower apartment with this cheap honey. They would make so much the more in the boxes the ensuing season, that I think it would be good economy.

I am gentlemen, your obedient servant,

J. R. Barbour.

*Newbury (Byfield), November* 10, 1831.

P. S.—I have thought, that it would be interesting to the Trustees to peruse a letter which I received from Gorham Parsons, Esq. of Brighton, giving a particular account of his success in using my apparatus. I therefore send the letter along with this communication.

In reading Mr. Parsons' letter, I am reminded of one thing on which I have not spoken. It is in regard to the number of bees destroyed in transferring a stock. I would say then, that in removing them from a common hive, you need not lose *any*, except such as may happen to get maimed in some of the operations. The *water* will not kill them. It only renders them torpid. Heat will reanimate them. Hence the necessity of taking a warm pleasant day for the operation.

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BRIGHTON, SEPT. 1st, 1831.

DEAR SIR,—I availed myself of the liberty you gave me when at Byfield, and applied at the New-England Farmer office for your model of the apparatus for removing bees from an old or defective hive to a new one. It was readily delivered to me, and I had a cistern and receiver made of the proper dimensions, conforming to the model, which I have since returned in the same good order as when received by me, and I beg you to accept my thanks for the loan of it. I made use of my apparatus soon after it was made, and the paint dry, and have succeeded so well, that I feel bound to communicate to you the particulars, which are as follow, and by which you will perceive whether I followed the directions you gave me. On the 19th of August, I commenced with an old square hive, with five glasses on the top, in each of which the bees had made more or less comb. This swarm was put into the hive in June, 1827, and had performed well till this season; and this was the only hive I owned that had not given me one or more swarms this season; from four hives I had six swarms, and succeeded in hiving them all securely. In this old hive I was apprehensive that there was some difficulty, from the confused manner in which they left, and approached the hive, and the irritable disposition they showed on approaching the apiary since the early part of summer. I was under the necessity of having my garden syringe used very freely, to make them sufficiently quiet to remove the bottom board, and put the follower, as you term it, in its place.

I soon succeeded, and took out the bottom board, which, in this hive only, had not been exchanged for near two months, in consequence of their disposition to sting all who approached. On this bottom board I found more than a dozen worms, from one half inch to an inch and a quarter in length, all active, and moving very quick, except two, which the bees had covered close with their propolis. While examining the bottom board, one of the worms bored through the end of his covering, and crawled out; he was an inch and five-eighths long, and as large as a common pipe-stem, a few inches from the end—The other worm that was covered, on raising the propolis with my knife, I found had nearly effected his escape by making a pathway in the wood under his covering,—it appeared as if made by a gouge,—nearly one quarter of an inch in width, and of the same depth;—he would soon have obtained his liberty. I was fully satisfied the worms would have soon destroyed the bees, and was glad I had commenced their removal. The last mentioned worm was quite as large as the other; their bodies of a yellowish white, their heads covered with a hard yellow scale. The next morning, the 20th, I stopped entrance of hive—buckled straps to secure the follower,—took off glasses from top of hive,—corked up holes leading to glasses, and removed hive from apiary—then attached the receiver to bottom of follower, and took the hive (top on which glasses stood down,) and placed it in cistern,—then, after drawing the sliders on the follower and in the bottom of receiver, filled the cistern gradually with water nearly to the top of the hive. The bees went up readily, and appeared to fill the receiver, which was then removed from the old hive, first closing the bottom of receiver with the tin slides. On examining the old hive, I found in one corner of it more than one hundred worms of all sizes. They had covered many of the bees with a sort of web, and destroyed them. Some bees remained in the spaces between the sheets of comb. A few pieces of the comb, which the worms had not approached, were then fastened on sticks and put in the new hive,—the comb free from worms, unless they were in the sealed cells (which I

hope was not the case); the receiver attached to new hive, the communication opened, and the bees passed into it readily. The bees found in the comb and apparently drowned, were put into the apartment appropriated for them in the receiver, but not more than half a p'nt were resuscitated. I lost nearly that quantity, but I thought most of the loss was occasioned by not putting them into the receiver before the bees were put into the new hive, as their warmth was necessary to restore life. I took from the old hive twenty pounds strained honey, and from the comb in the neighbourhood of the worms ten pounds and an half, which is kept to feed the bees when required. Neither the honey nor comb received any injury in quality, or diminution in quantity from the immersion in water, and no one was stung during the whole operation. On the 29th following I removed another swarm, for the purpose of putting them into a Charlieshope hive, and on the 30th, another, for the same purpose. The last was a swarm of this season, the other a swarm of 1830, that had thrown out a swarm early this season. I had no difficulty in removing them; no person was stung, and the three swarms in their new tenements appear to be doing well. I fear, however, it was rather too late in the season; but they must be supplied, to fill their comb, till the cold weather makes them torpid. I am much pleased with your plan, and think it a great improvement in the management of bees; hope you will communicate it for the benefit of the public.

I am also very much pleased and gratified with your method of securing bees from the ravages of the bee-moth. I called last spring to look at your bees, but you was from home. I was at once struck with your closing the apiaries with millinet on a light frame, kept close at the ends by buttons. I have found the practice of stopping the entrance to the hive with wove wire doors, very troublesome and inconvenient, at times hazardous, and injurious to the bees in warm weather, as they appeared to suffer for want of air, which your plan of closing the apiary only, entirely obviates.

I adopted it on my return home for all my apiaries; found it

simple, and not expensive;—it did not cost quite fifty cents to secure my largest apiary, containing three hives in a range. I never failed to close my apiaries at sunset through the season, and shall continue it till cold weather puts a full check on all winged insects; and am fully satisfied it will prove effectual, unless the moth wings his way to the hive during the day. I have found a number on the outside of the apiaries in the morning, and destroyed them. I cannot but prefer the Charlieshope hives to any I have yet met with. I shall be disappointed if, on trial, they do not obtain a preference with all who use them. I must defer at this time the result of my experiment with the worms taken from the old hive, which I put in a box with honey and honey-comb. On my next visit, if I have the pleasure of meeting you, will give you the particulars.

Respectfully, your obedient servant,

GORHAM PARSONS.

REV. ISAAC R. BARBOUR.

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## APPLE ORCHARDS.

BOSTON, SEPT. 1, 1831.

*Benjamin Guild, Esq.*

SIR,—Observing the Massachusetts Agricultural Society have offered a premium of fifty dollars for the best apple orchard, I have to request you will present my claim to the Committee, with the following statement.

In the fall of 1822, the piece of ground, where the orchard stands, was broken up, and holes dug for one half of the trees. The trees were taken from the nursery as soon as the frost permitted, and set out in the Spring of 1823, ⅓ Russetts, ⅓ Greenings, ⅓ Baldwins. The ground was planted with corn and potatoes in the fall of 1823; holes were dug, and the other half planted in the spring of 1824; the ground planted with corn where the potatoes were, and so on till 1827, when it was laid down with barley, clover and herds grass. About five feet in diameter has been kept open, and hoed every spring and fall,—every other year about a peck of wood ashes has been put

round each tree. They have been trimmed and washed every spring and fall, with a wash ¼ lime and ¾ cow dung, till this fall, when I washed them with soap suds.

Your humble servant,

JOHN MACKAY.

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## THE EXTRAORDINARY DESTRUCTION OF THE LAST YEAR'S WOOD IN FRUIT TREES, AND THE PROBABLE CAUSES OF IT.

*To the Publishing Committee of the Massachusetts Society for promoting Agriculture.*

BOSTON, MARCH 20, 1832.

GENTLEMEN,—I shall assume as a fact, founded on my own experience, and the information derived from various and extensive inquiries, that the last winter has most injuriously, possibly *destructively*, affected every variety of fruit-trees. The extent of the evil cannot be accurately settled until we have more information than we possess at present. Neither can the extent of the injury be ascertained, even where we have the most perfect means of examination, until we shall know with what vigour nature may exert itself to restore or repair its losses. I perfectly recollect, that about forty years since, there occurred a frost late in May, which wholly destroyed the young shoots of every species of fruit and forest trees. They recovered from that loss in one or two years. But the case differed in many very material respects from the present. The injury in that case only extended to the young and green shoots of the *existing* year, but it did not affect the last year's shoots. This is a very important distinction. The last year's shoots were not deprived of their functions; the numerous latent buds, which were not developed, instantly shot forth, and supplied the place of those which were destroyed. In the present case, the whole of the last year's wood, all that part of the tree which was designed to extend its growth, is wholly destroyed in very many, if not in a majority of cases. The vegetative or conservative power has been destroyed in its natural source—it is precisely

as if you had pruned back all the growth of the last year. I have no doubt that the root and the stock still retain their powers of renewal, and that the trees will send forth new and vigorous shoots from the older limbs. It is interesting to the cultivator to inquire, what will be the probable effect of this new and extraordinary demand on the powers of the plant. I mean to state only what appears to my mind to be its probable effects.

As to plants which are herbaceous, and perennial, and which do not shed their leaves, the effects of destruction or excision of the last year's growth are very trifling. To some of them, such as the geranium, it seems to be questionable whether any serious injury results from such a loss. It is also true, that many woody plants, which are deciduous, possess a power of reproduction which renders them almost insensible of the effects of constant deprivation and repeated deprivation of the last year's growth. It is from this law or principle, that the plants which we select for hedges, will endure for an almost unlimited period the barbarous clippings and privations to which, for use or ornament, they are annually subjected. Nay, more, they seem even to thrive the better under this treatment. This however is only deceptive. The plant does in fact suffer as much as its more noble and more useful congeners,—as the finest fruit tree. But as its use to us is of a different character, as we value it, not for its fruit, but for ornament, and protection against cattle, we disregard the mutilation of its natural powers; we treat it as the Italian connoisseur treats his eunuch—we deprive it of its powers of reproduction, in order to gratify our taste; but we as truly and effectually mar the designs of nature in the one case as in the other. Let me exemplify this by a simple case. The white thorn of Great Britain is kept as a dwarf—it rarely flowers—it is a feeble, helpless plant. I have one, which was left in my meadow by an English gentleman, who owned the estate I now possess, sixty-five years since. It stands alone. No rude hand has disturbed it. It is as *large* as a *pear* tree, and flowers and ripens a bushel of fruit every year. It is man, who has

dwarfed it for his own purposes, as he has improved the button pear to the Beurrè and St. Michael, by his attention to it —as he has raised the black cattle of the north of Europe, and the wild sheep of the steppes of Asia, to the noble short-horned bull, and the Saxony buck. It is not distinctly understood, except in China, where they raise the oak, the noblest oaks, to eighteen inches in height, that it is as much in the power of man to degrade, as to improve that vast realm of nature over which God has given him the absolute dominion.

To return to our principal inquiry, after an illustration which some may consider a rhapsody, but which, I hope, more reflecting minds may view in a very different light, as exhibiting some sound and philosophical views of a subject which has as yet received no very definite developement—What will probably be the effect of the late destruction of the last year's growth of fruit trees? Will it not be, at least, the procrastination of fruit? May it not result in permanent disease? Will it not be the policy of those, who are younger than I am, to set about planting new trees? Why should they be discouraged? If for two hundred years no such calamity has occurred, why should they dread its recurrence? No. It would be as unmanly, as it would be irrational, to despond. Pears, apples, plums, and peaches will decorate our tables ten years hence in as great profusion as now. Those who escape the evil will obtain greater profits.—The nursery men, though immediate sufferers, will be greater gainers in the end. After all, we may be deceived as to the extent of our losses. Nature is more powerful than we are aware of, and she may restore what now seems to be irreparable.

To what cause is this extensive destruction to be attributed? Most certainly not to the extremity of the cold. The trees affected are subjected every winter, in Holland, Germany, and Russia, to a lower state of the thermometer. To what then is it to be ascribed? It is painful to be obliged to offend our national pride by saying, as we believe to be the fact, that it is owing to the variations of our climate—to our proximity to the

Gulf-stream, which, within twelve hours, throws upon us the temperature of Spring in the midst of winter. Am I singular in this opinion? By no means. Writers in this country, and in Europe, of great intelligence, have long since attributed the destruction of fruit trees, not to the *cold*, but to the *occasional heat* of winter. I have many important facts in my possession, to prove this to be true. I will select one among one hundred. The ivy of Great Britain, a vivacious plant, will stand, *has stood*, this very winter, on the north side of an edifice, while on the south it uniformly perishes to the ground.

JOHN LOWELL.

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## LIVE HEDGES FOR NEW ENGLAND.

IT is not my intention to recommend live hedges for this rocky part of the United States. Our own stones furnish the best divisions we could ask for or desire; and on most farms, the removal of them from the soil, would be economical, and the placing them as partitions for fields is the cheapest and most natural mode of disposing of them. Still, in New England, there are extensive tracts of country, of alluvial or diluvial soil, in which no rocks are found, and in which a stone wall could not be obtained without great expense. Such is the state of the greater part of the old colony below Plymouth, and of some parts of the county of Middlesex. But wherever wood fences are required, it may be useful to substitute live hedges. The question is, what has been our experience as to the comparative value of the various plants employed in New England for live hedges? In the remarks which follow, I beg it may be understood, that I do not intend to oppose the opinions expressed by a learned and judicious horticulturist, Judge Buel; nor those expressed by practical gentlemen at the south; but simply the results of my own personal experience and observation, during the last eighteen years, since the subject of live hedges attracted the attention of our cultivators. Nothing which I may say can in any degree impeach the correctness of their statements, be-

cause the causes of the failure of certain plants with *us* may have been entirely *local*. This would not appear remarkable, when we consider that the Locust, (*Robinia Pseud acacia*) is absolutely interdicted to us, while it is the favorite, and one of the most valuable trees of the south.

Suffice it then to say, that the Virginia thorn, introduced here by Mr. Quincy, with whom it appeared to succeed, is, in most cases, utterly useless as a fence. This is chiefly owing to the ravages of a worm at its root; whether it be the same which attacks the apple and the quince, is a point not settled. The same objection is applicable to the English hawthorn. And to this *fatal* one, is superadded another, the appearance of a fungus of a yellow colour on the leaves, which utterly disfigures them, and strips them of their foliage in September. The *Gleditsia triacanthos* is not suited for hedges with us. If left to grow, they soon grow out of all reach; if checked, they are winter-killed. We are indebted wholly, and entirely, to the experiments of Ezekiel Hersey Derby, Esq., for the possession of a plant, the buckthorn *(Rhamnus atharticus)*, which, from ten years trial, seems to afford every desirable quality for a healthy, beautiful, and effectual hedge. We refer the public to Mr. Derby's account in the New-England Farmer, for particulars.

I can only say, and I feel it a duty to say, that I have tried this plant for six years. It is hardy, and rapid in its growth —of impenetrable thickness, and so far as that extent of experiment enables me to judge, not subject to any disease, or the visitation of any insect whatever. As it is very provoking, as well as expensive to cultivators, to be led astray, and to find, after five or ten years, that they have been deceived, they would do well to examine the growing hedges of the buckthorn, or *Rhamnus Catharticus*, at Mr. Derby's, Mr. Brooks's, Dr. Jackson's, or at my place.

JOHN LOWELL.

## SOME NOTICE OF THE ARACACHA, AND OF THE LAUDABLE EFFORTS TO INTRODUCE IT INTO THE UNITED STATES.

*To the Publishing Committee of the Massachusetts Society for promoting Agriculture.*

GENTLEMEN,—As the first attempt to introduce this valuable esculent root into the United States, as an object of garden, and possibly of field culture, has been made since the last number of your journal was published, it seems to me, that it would be unpardonable in the directors of your journal to omit any notice oft his plant, and of the meritorious efforts to introduce it into our list of esculent vegetables. This plant is considered in the new South American State of Colombia. "as the most useful of all the edible roots, being superior to the common and sweet potatoes." In using this language, I must be understood to quote the expression of those, who have tasted it in its native country, and by no means to admit, that much of this preference, and of its reputation, is not due to the prejudices of persons who do not see the Irish potato in perfection. It is not certain, that the Aracacha, could it be raised in perfection in the United States, would hold as high a rank here, as it does in Colombia. Still there can be no question, that it is a very pleasant and wholesome vegetable, and if susceptible of successful and *profitable* culture in the United States, it would merit great attention. It has, for some years past, engaged the attention of European cultivators, rather as a desideratum, than as an object of decided hope, and assured culture. It has been introduced into Jamaica with, as it is confidently asserted, perfect success.

Although it had been tried in the state of New York, and the indefatigable proprietors of the Flushing Linnæan Garden claim the merit of cultivating it with perfect success for several years past, yet it was due to Gideon B. Smith, Esq. editor of the American Farmer, printed at Baltimore, to say,

that he made the first extensive experiment to introduce this plant into general culture in the United States. We shall have occasion to refer to the experiments of the proprietors of the Linnæan Garden, in the close of our remarks.

Mr. Smith is unquestionably entitled to the merit, and it is no small one, of importing this plant, on a great scale, not for his own personal benefit, (for he seems to be superior to any selfish motives), but for the advantage of his country. He distributed his plants most liberally, with a view of testing their adaptation to the various sections of our country. While he transmitted a reasonable proportion to Massachusetts, he, at the same time, judiciously sent a share of them to South Carolina. It is my own private opinion, that if they shall be eventually found to flourish, and to attain a solid value, it will be in the two Carolinas, Georgia, Florida, and Louisiana. The reasons for this opinion, besides those which are obvious, I shall state hereafter. The Massachusetts Horticultural Society did me the honor to transmit three plants of the Aracacha to me, probably from the knowledge that I feel a deep interest in the cause of horticulture, and enjoy a great and unfeigned delight in new experiments, which promise, however faintly, the improvement of these invaluable arts. I tried these plants. They arrived in the best possible order. They were in the highest state of health and vigor. They were planted in excellent soil—watched with the greatest care. Their growth was rapid, vigorous, indicating the highest state of health. I felt assured, that the Aracacha was adapted to our climate. I pointed it out as a successful experiment. Yet suddenly, without frost, or cold, or any perceptible cause, the leaves perished. Tenderer plants, plants of tropical countries, continued to flourish; but these failed. I could only indulge in loose conjectures as to the cause. I struck upon the heavy rains, as a possible cause; and knowing that South America was subject to severe and long continued droughts, perhaps my conjecture was not a very absurd one. Still it was but a conjecture, and I did not value it much. Long and repeated experiments, much pa-

tience, and great coolness, are required to the *acclimation* of plants—that is, in introducing into new climates and new soils, plants born and cultivated under others essentially diverse. Still, as a person entrusted with a new experiment, or a plant entirely new, and deemed of great value, a report from me, of my own experiment, was due to the Society, who had shown such a mark of its confidence. It was made,—the failure was detailed at large, and certain loose conjectures or suggestions were made as to the causes of failure. I was grieved, when I found that Mr. Smith, whose exertions I so much valued, seemed to consider my remarks, as, in some degree, an impeachment of the value of his exertions. Most assuredly no such intention existed. I considered the effort which he had made as entitled to the thanks of every friend of horticulture and agriculture. But I have always considered it as solemn a duty of every cultivator, to announce to the public his failures, as his successes. I have thought, after thirty years' experience, that *more evil* has resulted from too precipitate recommendation of new plants, and new processes in agriculture, than from the opposite defect—the cautious, even incredulous disposition of cultivators to admit new and manifest improvements. I really believed that my experiment on the Aracacha had been so fair an one, and the season was so favorable, better than I had known for twenty-five years, that the failure must be attributed to the utter incapability of our soil and climate to mature this plant. Let us now see, how far the evidence before the public supports, or defeats or contradicts, the opinion thus formed.

In the first place, we will take Mr. Smith's own experiments, as detailed by him last autumn. We are promised new particulars, which he flatters himself will show, that the Aracacha may be raised as easily as the parsnip—he might have said, as well as the common potato. Now what was his success? Did he raise one bushel fit for the table? If so, what was the quality and value of the root? Look, then, at Mr. Legare's minute and very clear and intelligent statement of his

very careful and cautious experiments? Did he raise enough to make presents to his friends of this invaluable root? No. But any vegetable, to be of permanent value, should at last yield eight fold. The sweet potato, even here, yields ordinarily twenty-five fold, or one bushel yields twenty-five. The Irish potato yields from ten to fifteen fold. If, then, this new acquisition had yielded even eight fold,—and if it did not, it would not merit cultivation,—why have we not the evidence of its goodness and abundance for the table?—But, says Mr. Legare, the Chevalier Soulange Boudin states that it has been cultivated with success in Montpelier and Geneva! Ah! is this so? Could the potato be successfully cultivated in Montpelier and Geneva, and not be soon cultivated in Paris, if its products are sufficiently ample and abundant to render it an object of *profitable* culture? This fact (if it be one), makes me distrustful of the probable success of this plant. But the most discouraging fact, which has as yet attracted my notice, is this. When I stated my total failure in the cultivation of the Aracacha, William R. Prince, Esq. immediately came out with a declaration, that their establishment had cultivated the Aracacha without difficulty for several years past, and that he had transmitted many plants of it, raised by them, to Europe. If this be so, and we cannot doubt it, it is clear, that it never can be cultivated with success as a common culinary vegetable. It would have spread before this time throughout the state of New York. I knew a quantity of the common potato which was brought from Philadelphia in a silk handkerchief, and in two years I received a barrel of it for seed, which gave me nearly fifty bushels.

Will it be said, that the Messrs. Prince reserved every plant for profit, and could not spare even a mess for the Horticultural Society of New York to test its value in our climate? My answer is, that the tuberous part of the root, if in our climate it ever produces any, are not necessary to its propagation. It is only the crown and eyes which are employed. You may cut off the edible part, as in the Dahlia, without diminishing ts powers of reproduction.

What then, it may be asked, are your views upon this subject? Would you discourage the experiment? By no means. We rejoice that Mr. Smith has so much ardor and confidence. We wish we had a little of it.—But we would respectfully suggest the expediency of planting some of the roots in pots and tubs, and placing them in a hot-house, and endeavouring to raise seeds from them. Seeds sown here, will be gradually accustomed to our climate, and may become hardy. Plants raised *south of the equator*, it is of little moment whether in a high or low latitude, retain for a long time their natural habits —that is, they grow in our winter, and perish in our summers. This is so true, that it is extremely difficult to change these habits even in plants which are now common to both hemispheres.

I will state one remarkable example. I received the golden potato of Peru, very celebrated in that country. Three successive years it has been fully and fairly tried by the aid of artificial forcing, and every advantage of location, but it obstinately refuses to bend its habits to our climate. It will start either in the fall, or if put in the hot-bed in April, it will not produce its tubers till October. I have often reflected upon the curious fact that the potato should have been so easily acclimated in Europe, when we now cannot acclimate the Peruvian, or even the California potato, both of which I have tried for three successive years. My explanation of it is this, that the potato spread by slow degrees from Chili to Virginia, during a period of perhaps one thousand years, and became gradually inured to a northern latitude. It is clear, that the potato never was found in a wild or natural state in North America, and yet equally clear, that it was transmitted first from Virginia to Europe.

*One of the Trustees of the Massachusetts*
*Society for promoting Agriculture.*

*From the Southern Agriculturist.*

## RESULT OF AN ATTEMPT TO CULTIVATE THE ARACACHA.

It is known to the readers of this journal, that Mr. Gideon B. Smith, of Baltimore, (editor of the "American Farmer") imported last spring from Colombia a number of Aracacha roots, which, with great liberality, he distributed in different sections of the United States. This root is considered in Colombia as "the most useful of all the edible roots, being superior to the common and sweet potato," and has for some time attracted the attention of the botanists and horticulturists of Europe, and many attempts have been made to introduce them there, as well as into the United States. These have generally been unsuccessful; in fact, we know of no place where they are cultivated with success out of South-America, except some of the West-India islands. The Chevalier Soulange Bodin states, that they are cultivated in the botanical garden of Montpelier, and flourish in that of Geneva;—but whether as mere objects of curiosity, or are so acclimatised as to become useful, we are not informed. A plant may be cultivated with success in a garden, where proper care can be bestowed, to protect from cold or shade from heat, which cannot thrive at all if exposed to the vicissitudes of the climate. We believe no attempt to accomplish this in any part of the United States has been even partially successful until the present year. The Aracacha has long been on the catalogue of the Linnæan Botanic Garden, New-York, and we obtained from thence, in 1828, four roots. They all perished during the first summer:—being absent the whole time, we know not to what cause to attribute their deaths. If Mr. Prince, (the proprietor of that establishment) has been successful in their culture in the open ground, he has not made it known to the world, (at least we have never heard of it); we are therefore induced to believe that he has not, especially as, when we requested information, he referred us to an article pub-

lished in the " American Farmer," relative to their culture in Jamaica. The efforts now made, may therefore be considered as the first which have been even partially successful, and which have been made public.

Some of the roots were sent on to the Massachusetts Horticultural Society, and by them committed to one of their members. He has reported an entire failure, and expressed an opinion unfavourable to their being sufficiently climatised for any useful purpose, if at all.

We will now proceed to state the result of our attempt to cultivate them; and as this plant may at some future time become of importance to us, we hope we shall be pardoned for being minute in our account. It will be interesting, even should they never become objects of culture with us, to know hereafter that their introduction was attempted, and what was the result. Moreover, publicity being given to all these experiments, they will serve as guides to those who may wish to undertake their culture.

Early in March, we received from Mr. Smith fifteen roots, which we had planted on the 26th in the following localities. Four roots (marked No. 1), in a sandy loam, near the termination of a gentle declivity. This was chosen in order that they might not suffer from our spring droughts. They were guarded from an excess of moisture, by having a ditch cut within a few feet of them. The balance were planted in a garden, the corners of which pointed to the north, east, south, and west. Three roots (No. 2), were planted in the northern corner, near to a paling fence, and were protected on the north-east and north-west by it, and which afforded a shade to the plants in the afternoon from about three o'clock; the rest of the day they were fully exposed. Four roots (No. 3), were planted in the southern corner, and were greatly protected from the sun, by a house to the south, a close paling fence to the east, and a large peach tree to the west, in consequence of which, at no time were they long exposed to the sun. Being perfectly open to the north, and with nothing overtopping, these plants enjoyed as cool and

as favorable a situation as the climate would admit of. Two others (No. 4), were planted in the middle of the garden;—the soil of the whole garden was light and sandy. A compost of equal quantities of *well-rotted* stable and cow-pen manure was used.

When planted, most of them had commenced vegetating, and on 4th of April they were above ground, with leaves fully expanded. The month of April was exceedingly cool and rainy, whilst May, on the contrary, was excessively dry, more so than we ever recollect it to have been so early in the season. On our farm, where these roots were planted, the drought was so severe, that many vegetables in the garden perished for want of moisture, and many which we consider as best able to withstand such seasons, were so injured as not to recover their vigour during the whole season. The month of May, although dry, was generally cool; there were, however, some very warm days, during which the leaves of all vegetables were more or less wilted. During this trying season, the Aracacha were most luxuriant in their growth, and progressed rapidly, apparently totally unaffected by either heat or drought. There was very little if any difference of growth between the different plants. They continued to promise well until the middle of June, when we had some unusually high tides, which overflowed places not subject to inundation even in gales. These tides did us some injury; and though they did not overflow the bed on which No. 1 was planted, yet they penetrated into the adjacent ditch, the consequence of which was that one of the plants soon perished. Soon after, there occurred heavy falls of rain, and all of these perished.

The year 1831 has, in the lower part of this State, been remarkable for the alternations of drought and heavy falls of rain. The winter had been unusually severe and rainy; the last of February and March was, however, mild, and not more rain fell than was necessary for the purposes of vegetation. On the 16th April there occurred a most tremendous fall of rain, accompanied with much cold. During the month of May there fell but one

shower,* and vegetation suffered much, as before noticed. From the middle of June to the middle of July, there was scarcely a day during which it did not rain, and for many days, violently. From the 16th July to the 9th August we had no rain: the remainder of August and September were rainy, whilst October was just enough so for the purposes of vegetation.

It will be seen from the above statement, that contrary to the usual course of the seasons, we had alternations of droughts and inundations in constant succession, and with scarce any intermediate stages; for from the time it ceased raining, it very often happened that not a shower fell again until the next deluge. These vicissitudes were extremely unfavourable to all garden crops, and it could scarcely be expected that plants which were cultivated here for the first time could prosper, when those long habituated to the climate perished. Notwithstanding, however, the Aracacha grew well until July, when there was an evident decline, and which was most perceptible after the heavy falls of rain, which commenced in June:—by the 6th August all on the low grounds had died, as well as one of those in the centre of the garden. By the middle of September all in the garden perished, except those in the southern corner, which were protected from the influence of the sun by the house, &c. These plants were not exposed, we believe, to the direct rays of the sun more than three or four hours during the day, if so long, and from their situation the ground must have been as cool as it was possible for it to be during summer.

These plants grew as vigorously in the early part of the season as any of the others, especially during the dry weather, but appeared to suffer much less from excessive moisture. During the months of July, August, and the commencement of September, they remained stationary, perhaps on the decline; not one of them, however, died. Towards the last of September there was an evident renovation. The old leaves,

* These remarks are, of course, applicable only to our farm and its immediate neighborhood.

which before had a sickly hue, recovered their healthy appear ance, and there was a vigorous growth of young shoots and leaves. From this time, until killed by a frost in the middle of November, they were far more luxuriant than we had ever before seen them. During the summer we could not find more than five shoots. On a root we have taken up since the tops were killed, we have found sixteen large and distinct shoots, and a large number of smaller ones growing from these, with innumerable embryos and eyes, which in a short time would have astonishingly multiplied the product of the plant.

It perhaps will be expected that we should give an opinion relative to this plant's being climatised, and its value. We cannot from this solitary experiment venture to give the least opinion. We have stated the facts as they were noted down at the time, and it will remain for each to form an opinion for himself. All of the plants flourished remarkably well during the early part of the season, and whilst it continued dry, but perished as soon as the heavy rains set in (except those noted). From this we conclude that heat is not so injurious to them as much moisture, and perhaps it was both combined which produced the result. Over many I had scaffolds erected from three to four feet high, sufficient to shade them from the midday, but open to the morning and evening sun, also enjoying a free circulation of air. Some were thus protected from the commencement, whilst others received it at a much later period. I found these of no avail. On examining those which perished, I found invariably that the lower parts of the original plants rotted first. The crown (from whence issued the shoots) continued alive much longer, and the leaves and the young shoots remained of a good colour, some time after decay had commenced. They appeared to thrive best in moderately cool weather, and were not affected by such frost as killed tomatos and other tender vegetables;—their situation, perhaps, may have aided in protecting them. We wish much that we had given these plants some protection during the winter; a very slight one we believe would have answered. Had we

done so, we doubt not but that we would have been the first to have eaten of the matured Aracacha root, in this State at least, if not in the United States. As it is, we have partaken of one, though perhaps not in perfection.

This plant grows differently from any we have ever noticed. We were led to believe, from the statements we have read, that it produced *roots* resembling a *cow's horn* in shape, and that these were the parts eaten; but if so, our's have failed altogether in this respect. We are inclined to think, however, that these statements are erroneous. The tuber, off-set, (or whatever it may be termed) which is used for propagation, resembles somewhat the arrow-root, and like it possesses several eyes; these are principally near the crown. At the base, or part where it is separated from the original plant, it produces a number of fibrous roots, and from no other part of the plant have we observed the least appearance of any. On examination, we have found none of these exceeding one-eighth of an inch in diameter, but generally not half that size. The growth is altogether upwards. From the crown, shoot, in the first instance, several single leaves, each indicating where will be a tuber; from the centre of the foot-stalks of these leaves arise others in succession, which were enveloped by those preceding—for the plant is *indigenous*; in the course of time tubers are formed, which again produce others from their sides, thus forming a very large cluster on the top of the original plant, which does not increase proportionably in size. One of those which we have recently examined, and which was about two inches in length and one in diameter when planted, has increased only to four in length and one and a half in diameter, whilst at the same time it has produced sixteen shoots or tubers, varying from three-fourths of an inch to three inches in length. It was the original stem (or plant)after being divested of all the young tubers, that we had cooked; we found it extremely tender, very delicate, a little mealy, and having the flavour of the Irish potato and celery combined. Whether such is the taste

of the young tubers when in perfection, we hope to determine in the course of the present year.

A part of our plants we took up soon after their tops were killed by the frost; two of these we separated (the young tubers from the parent, and from each other), and one we left entire as taken from the ground; these were packed away in dry sand, and placed in a potato cellar. One plant we permitted to remain untouched in the open ground, merely drawing a little earth over the crown to protect it from frost. On examining these plants to-day, (Jan. 17, 1832,) we find that the one left in the open ground, has shot out several leaves, which will in a few days protrude through their covering. The plant which had been left entire and packed away in sand, has also commenced shooting. Those which were first separated and then packed away, remain as at first. We have separated the tubers from the one which was entire, and planted a part out; the remainder we shall preserve for future use. From what we have seen of their growth, it appears to us that it would be advantageous to earth them up. This we shall try with some, whilst others shall be left undisturbed. We will vary our experiments as much as possible, and endeavor to ascertain, in the course of the approaching season, what probability there is of the Aracacha ever becoming of value to us. Should it become so climatised as to be cultivated in the open ground freely, it cannot fail to be of immense value; its present indications are that it will prove very productive. From some interesting particulars respecting this plant, we refer our readers to the article from the pen of Gen. H. A. S. Dearborn, vol. iv. p. 322.

## IMPORTED STOCK.

*To the Publishing Committee of the Massachusetts Society for promoting Agriculture.*

Boston, March 22, 1832.

Gentlemen,—It is certainly to be regretted that some respectable farmers show a disposition not only to indulge prejudices against the imported breeds of cattle, but to excite these impressions on the minds of others. They appeal to a popular feeling, and a very natural one, which too easily besets us, "our own superiority." "The true worth of our ancient breed," says one, "as to their competition, is much neglected." Again—"our old accustomed breeds are unnoticed." In the most approved practices of breeding of stock, perhaps no better reason need be given, for a change, than this very fact, that it is *our old accustomed breed* on which a cross would be beneficial for that cause only. As the disadvantage of breeding "in and in" for a length of time, has been long admitted, the principle of a change of breed, or cross, by judicious selections, has, it is believed, induced almost universal assent and practice.

Some contend that a given weight may be placed on any part of animals, to correct a deficiency; and others, that every disposition and property may be improved by a skilful observation and practice herein. The attention of agriculturists in Europe, has been for the greater part of the last century, engaged in this process. In England more especially, if we can believe all we see—or all we hear—or any part of it—animals of extraordinary production, as well as those of great beauty, size and power, with a favorable disposition to fatten, have been brought to view. Instances might be here quoted, but they are too well known to need it! Wherever, in any country, a judicious selection of stock has been in careful continued practice, we must shut our eyes and seal up our senses not to perceive the beneficial result. And why should we

doubt our power in this particular? It seems the all-wise intention in our condition, that we should cultivate and improve every thing about us! And do we not so do? How is it with the horse, and various other animals? Are they not bred and reared, for various uses, by careful selection and attention? And why should we easily and indolently admit that nothing is to be effected in our cattle, forming, as they do, the great sources of our comfort and support?

But though our efforts, in this country, may have been less strenuous and uniform—and for a shorter period of time—still we do not want proofs of what may be done at home. Our cattle are susceptible of improvement, as the Sutton race will show. Those who most dislike the imported breed, tell of some native stock in their neighborhood which is superior.—Be it so! Our stock was mostly derived from Great Britain, and is doubtless as capable of improvement.

All that is to be said, is that when *that* which time only can produce has for nearly a century been in careful progression, a prudent consideration will avail of the advantage.

It is further complained, "that much is said of the imported, and little or nothing of our native stock." If this alludes to any general expression or opinion, it will have its due weight, and no more. But the object of the Massachusetts Agricultural Society has been, to promote a *judicious selection*, as the *great thing necessary*,—and so their committees have uniformly urged. The premiums on milch animals have been mostly given to native stock, it is believed—some to the imported breed to be sure,—the far greater number of the former makes this natural. In many cases the richness of the milk, in the imported breed, has been remarkable—and their general size, proportion and beauty, has been thought to exceed our old races.

The disappointment of a farmer, who has paid a large price for an animal (as has occurred) that has long legs, and "a bag that is difficult to be found," is to be regretted,—but these things will sometimes happen. But it is earnestly contended for in Europe, and by many here, that where there has been a long

transmission of improved blood in stock, this occurs much more rarely!

The improved short-horns are not generally esteemed a long-legged race—many of them are great milkers—though for this property they are thought by some to have too great a tendency to become fat. By this facility they often disappoint those who wish to increase their breed. This disposition to fatten is so felt in England, that, at their Smithfield cattle-show last year, it was proudly said, "Foreigners may boast of their sunny climes,—of the spontaneous produce of their soil,—of their grapes, and their wine, and their olive yards,—but no land but England can so boast of their *Fat Cattle Show.*"

The object of the Trustees of the Massachusetts Agricultural Society, is to encourage whatever is connected with the great staples of the country—not to write down one race of cattle, and set up another. Whatever means are at hand, let them be made use of. But if others, and superior, can be had from abroad—brought home, and used to greater advantage, let us not be too steadfast in our old habits and practices, lest we should perceive, too late, that we have stood still whilst others have advanced.

As connected with this subject, and likely to afford some interest to a portion of your readers, I subjoin an extract from the British Yeoman and Rural Gazette, lately sent me, which contains the award of the prizes at the *Smithfield Cattle Show* of 1831. The genealogy, mode of feed, &c., are given. It will therein be perceived that the breed of the prize ox is traced through Comet back to Hubbuck, the reputed source of great production, from which we have Denton, Admiral, Wye, Comet, and others of the improved short-horn breed of cattle.

I am yours,

JOHN WELLES.

## SMITHFIELD CATTLE SHOW.

*From the British Yeoman and Rural Gazette of January 7th*, 1832.

We went to the Show and were much gratified! Foreigners may boast of their sunny climes—of the spontaneous produce of their soil—of their pomegranates, their grapes, and their wine, and their olive yards; but, after all, no land but England can boast of their *fat cattle shows*. It is only *here* that such a thing is known. France and Spain for wines; Holland for tulips and bulbous roots; Russia for its tallow, and Peru for its gold; but only old England for FAT CATTLE!

The following is an account of the prizes awarded:—Lord Brownlow's ox is a most beautiful docile creature, and is, independent of his great size and weight, a perfect picture, being wholly white, and that like snow. There were beautiful specimens of the South Down sheep, bred by Mr. Ellman, and his Grace the Dukeof Richmond; but the following are what the judges deem best.

The award of the prizes of the Smithfield Club were, as delivered at the annual dinner by Lord Althorp, as follow:—

### OXEN.

A prize of 20 sovereigns, to Earl Brownlow, for his 4 year and 7 months old Durham ox; bred by him; a silver medal as the breeder of the same; and a gold medal, for the best beast shown.

First prize of 20 sovereigns, to Jas. T. Senior, Esq., for his 4 year and 10½ months old Hereford ox; bred by Mr. John White; and a silver medal, as the breeder of the same, to Mr. John White.

Second prize of 10 sovereigns, to Messrs. Edward and Chas. Marfleet, for their 3 year and 11 months old Durham ox; bred by them.

First prize of 15 sovereigns, to Mr. John Slater, for his 4 years and 3 months old Hereford ox; bred by Mr. Dobson; and a silver medal, as the breeder of the same, to Mr. Dobson.

Second prize of ten sovereigns to William Smith, Esq., for his 3 year and 4 months old improved short-horned ox ; bred by himself.

First prize of ten sovereigns to Mr. Richard Kitelee, for his 3 year and six months old Hereford ox ; bred by Mr. Walford; and a silver medal, as the breeder of the same, to Mr. Walford.

Second prize of five sovereigns to James T. Senior, Esq. for his 3 year and 2 months Hereford ox ; bred by Samuel Peploe, Esq.

Prize of fifteen sovereigns to Lord Viscount Althorp, for his 7 year and 3 months old Durham cow ; bred by Earl Spencer ; and silver medal, as the breeder of the same, to Earl Spencer.

Prize of ten sovereigns to Charles Stokes, for his 4 year and 2 months improved short-horned heifer ; bred by himself; and a silver medal as the breeder of the same.

### SHEEP.

First prize of ten sovereigns to Mr. W. Pawlett, for his three 20 months old Leicester wethers, bred by himself; and a silver medal as the breeder of the same.

Second prize of five sovereigns to Lord Viscount Althorp, for his three 21 months old Leicester wethers, bred by him.

Prize of ten sovereigns to Mr. Charles Stokes, for his three 32 months old Leicester wethers, bred by himself; a silver medal as the breeder ; and a gold medal for the best pen of sheep.

First prize of ten sovereigns to Sir Percival H. Dyke, Bart. for his three 20 months old South Down ; bred by Sir Thomas Dyke ; and a silver medal as the breeder.

Second prize of five sovereigns to Mr. Thomas Ellman, for his 20 months old South Downs. Bred by himself.

Prize of ten sovereigns to Mr. Stephen Grantham, for his 32 months old South Downs. Bred by himself; and a silver medal as the breeder.

### PIGS.

First prize of ten sovereigns to Thomas French, Esq., for his three 32 weeks old Essex pigs ; bred by himself, and a silver medal as the breeder.

Second prize of five sovereigns to Messrs. Borrowdale and Taylor, for their three 34 weeks old Neapolitan and Essex pigs ; bred by Mr. Taylor.

EXTRA STOCK.

A silver medal to Mr. John Freestone, for the best long-wooled sheep.

A silver medal to Mr. Stephen Grantham, for the best short-wooled sheep.

A silver medal to Thomas French, Esq., for the best pig.

The white Durham ox was calved in 1827—he was taken from the cows at three days old, and then kept on linseed porridge and hay for that summer, hay and water the following winter. In the year 1828 he was summered in his lordship's park, the following winter he was put out to keeping on barley and oat-straw for twenty weeks. In 1829 he was summered in his lordship's park ; he was kept on straw the following winter till the first week in January, 1830 ; he was then put into a loose box, and kept on mangel wurtzel and hay for some months, when he was allowed a small quantity of oil-cake daily ; thus he continued till the first of August, 1831 ; from that time he has been fed on Swedish turnips, carrots, and oil-cake—1460 lbs.

He was got by Cavalier, Cavalier by Blucher ; dam Countess, by Brampton ; grandam young Charlotte, by Wellington ; great grandam Old Charlotte, by Comet ; great great grandam Cathline, out of a daughter of the dam of Phœnix, by Washing ; Blucher, by Jobling's Wellington, now Rockingham ; dam by Mr. Charles Colling's North Star, by own brother to Comet ; Wellington, by the late Robert Colling's Miner, dam by Phenomenon, grandam by Colonel, great grandam by a son of Hubback's.

The dam of the white ox was bought of Mr. Heb, out of the North, of the true Durham breed.

# CATTLE SHOW,
# EXHIBITION OF MANUFACTURES,
## PLOUGHING MATCH,
AND
## PUBLIC SALE OF ANIMALS AND MANUFACTURES,
AT BRIGHTON, (MASS.)
ON WEDNESDAY, OCTOBER 17, 1832.

THE Trustees of the Massachusetts Society for the promotion of Agriculture, encouraged by the patronage of the Legislature of this State, intend to offer in premiums, not only the sum granted by the Government for that purpose, but also the whole amount of the income of their own funds. They therefore announce to the public their intention to have a Cattle Show and Exhibition of Manufactures, &c. at Brighton, on Wednesday, Oct. 17, 1832. The whole business to be transacted in one day. The following premiums are offered:—

FOR STOCK.

| | |
|---|---|
| For the best Bull, above one year old - - | $20 00 |
| For the next best, do. - - - | 10 00 |
| For the best Bull Calf, from five to twelve months old - - - - - | 10 00 |
| For the next best, do. do. - | 8 00 |
| For the next best, do. do. - | 5 00 |
| For the best Cow, not less than three years old | 25 00 |
| For the next best, do. do. - | 15 00 |
| For the next best, do. do. - | 10 00 |
| For the best Heifer (having had a calf) - | 15 00 |
| For the next best, do. - | 10 00 |
| For the next best, do. - - - | 5 00 |

The Bulls, Cows, and Milch Heifers, for which premiums are awarded, to be kept at least one year thereafter within the State.

| | |
|---|---|
| For the best Heifer (not having had a calf) - | 12 00 |
| For the next best, do. do. - | 10 00 |
| For the next best, do. do. - | 8 00 |

| | |
|---|---|
| For the next best, do. do. - | $6 00 |
| For the best Ox fitted for slaughter, regard to be had to, and a particular statement to be given of, the mode and expense of fatting - | 25 00 |
| For the next best, do. do. - | 20 00 |
| For the next best, do. do. - | 10 00 |
| For the best pair of Working Oxen - - | 25 00 |
| For the next best, do. - - | 20 00 |
| For the next best, do. - - | 15 00 |
| For the next best, do. - - | 12 00 |
| For the next best, do. - - | 8 00 |

[*No oxen to be admitted to trial as working oxen, under four years old.*]

| | |
|---|---|
| For the best Dishley Ram - - - | 20 00 |
| For the best do. Ewe - - - | 20 00 |
| For the best South Down Ram - - - | 20 00 |
| For the best do. Ewe - - - | 20 00 |

*The above premiums will be awarded on Sheep either imported or raised in the State; but the persons receiving the premiums are to enter into obligation to keep the same within the State, for breeding.*

| | |
|---|---|
| For the best Boar, not exceeding two years old | 12 00 |
| For the next best, do. do. - | 8 00 |
| For the next best, do. do. - | 5 00 |
| For the best Sow - - - - | 12 00 |
| For the next best - - - - | 8 00 |
| For the next best - - - - | 5 00 |

To be kept one year thereafter for breeding, by the persons receiving the premiums.

| | |
|---|---|
| For the best Pigs, not less than two in number, nor less than four months old, nor more than eight - - - - - - | 10 00 |
| For the next best, do. do. - | 5 00 |

None of the above animals, except Sheep, as above specified, will be entitled to premiums, unless they are *wholly* bred in the State of Massachusetts.

Any of the above Stock, when raised and still owned at

the time of the exhibition by the person who raised them, will entitle the claimant to an allowance of ten per cent. in addition.

No animal, for which to any owner one premium shall have been awarded, shall be considered a subject for any future premium of the Society, except it be for an entirely distinct premium, and for qualities different from those for which the former premium was awarded. *Any animal which shall have obtained a premium as a Milch Heifer, shall not afterwards be entered for premium as a Milch Cow.*

### BUTTER AND CHEESE.

| | |
|---|---|
| For the best Butter, not less than fifty pounds | $20 00 |
| For the next best, do. do. - | 15 00 |
| For the best Cheese, not less than one year old, and not less in quantity than 100 pounds - | 20 00 |
| For the next best, do. do. - | 15 00 |
| For the best Cheese, less than one year old, and not less in quantity than 100 pounds - | 10 00 |
| For the next best, do. do. | 5 00 |
| For the greatest quantity of Butter and Cheese, made between the 15th of May and the 1st of October, from not less than four cows; the quantity of Butter and Cheese and the number of cows to be taken into consideration, and specimens to be exhibited at the Show, of not less than 20 pounds of each, and the mode of feeding, if anything besides pasture is used - - - - - - | 20 00 |

Besides the above premiums for Butter and Cheese, the Trustees will award the following in the month of December:—

| | |
|---|---|
| For the best lot, in tubs, pots, or firkins, not less than 300 pounds - - - - | 100 00 |
| For the next best, not less than 300 pounds - | 50 00 |
| For the best, less than 300 pounds and not less than 100 pounds - - - - | 30 00 |

| | |
|---|---|
| For the next best, less than 300 pounds and not less than 100 pounds - - | $20 00 |
| For the best lot of Cheese, not less than one year old, and not less in quantity than 300 pounds - - - - - - - | 100 00 |
| For the next best, not less than one year old, and not less in quantity than 300 pounds | 50 00 |
| For the best lot of Cheese, less than one year old, and not less in quantity than 300 pounds | 50 00 |
| For the next best, less than one year old, and not less than 300 pounds . - - | 30 00 |

The claimant for the several premiums on Butter to be exhibited in the months of October and December next, must state in writing the following particulars, viz. the number of cows kept on his farm; his mode of keeping; the treatment of the milk and cream before churning; the mode of churning, winter and summer; the measures adopted to express the butter-milk; the quantity and sort of salt employed; whether saltpetre, or any other substances have been used in the process; the best time for churning, and keeping Butter in hot weather, and the best mode of preserving it, in and through the summer and winter, and in what vessels.

The claimants for the several premiums on Cheese, must state the mode of making the same, and the following particulars, viz. the number of cows kept; whether the Cheese is made from the proceeds of one, two, or more milkings; whether any addition is made of cream; the quantity and sort of salt used; the mode of pressure, and the treatment of the Cheese afterwards.

Farmers in the several States are invited to compete for these premiums, at the exhibition in December.

Claims, for the premiums on Butter and Cheese last above mentioned, must be made in writing, addressed to Benjamin Guild, Esq., Boston, post paid, on or before the 3d of December next; and the parcels deposited before Tuesday, the

4th, at a place to be designated hereafter by the Trustees, on which day, at 10 o'clock, before noon, the Committee will proceed to examine the lots offered for premium, and none will be admitted after that hour.

The premiums will be awarded at the same place on Wednesday, the 5th.

Each lot must be marked with the initials of the owner's name, and the place of manufacture.

It is particularly recommended to the competitors, that the Butter be put up in the nicest manner.

And to take notice, that there will be a public auction after the examination by the Committee, and those who desire to sell will have an opportunity, without any charge for auctioneer's fees, but the government duty must be paid by the owners of the Butter and Cheese. The Committee will be at liberty to withhold from the auction sale any parcels, either of Butter or Cheese, which they may have reason to suppose, from the ordinary quality of the same, or other circumstances, may have been sent merely for sale.

### VEGETABLE AND GRAIN CROPS.

| | |
|---|---|
| For the greatest quantity of Carrots on half an acre, not less than 300 bushels - - | $15 00 |
| For the greatest quantity of Potatoes on an acre, not less than 500 bushels - - | 20 00 |
| For the greatest quanity of Mangel Wurtzel, or Scarcity Root, on an acre not less than 600 bushels - - - - - - | 20 00 |
| For the greatest quantity of Parsnips on half an acre, not less than 200 bushels - | 10 00 |
| For the greatest quantity of Ruta Baga on an acre, not less than 600 bushels - - | 20 00 |
| For the greatest quantity of common Turnips on an acre, not less than 600 bushels | 20 00 |
| For the greatest quantity of Onions on half an acre, not less than 300 bushels - - | 15 00 |

| | |
|---|---|
| For the greatest quantity of Vegetables, (grain, peas, and beans excepted,) for home consumption, and not for sale, raised for the keeping of stock, regard being had to the size of the farm in proportion to the crop, and to the number of the stock kept; and also to the respective value of the vegetables as food, and the expense of raising the same - - - - - - | $30 00 |
| For the greatest quantity of Indian Corn on an acre, not less than 80 bushels - - | 20 00 |
| For the greatest quantity of Winter Wheat on an acre, not less than 30 bushels - - | 20 00 |
| For the greatest quantity of Barley on an acre, not less than 40 bushels - - - | 20 00 |
| For the greatest quantity of Rye on an acre, not less than 30 bushels - - - - | 20 00 |
| For the greatest quantity of Millet on an acre, cut and cured for hay, not less than 3 tons, the claimant giving evidence of the time of sowing, the quantity of seed sown, and the quantity of hay produced - - - | 20 00 |
| For the greatest quantity of Mustard Seed, not less than 15 bushels - - - - | 20 00 |
| For the greatest quantity of dressed Flax, not less than 500 lbs. from an acre - - | 20 00 |
| For the greatest quantity and best quality of Hemp on an acre - - - - | 40 00 |

It is to be understood, that the quantity of land specified above is, in each case, to be in one piece. And the claimant of any of the above premiums shall, with one other person, make oath to the following particulars, before some Justice of the Peace, and, with a certificate of the same, shall obtain a certificate of the measurement of the land by some sworn Surveyor.

The particulars are—

1. The condition of the land in the spring of 1832.

2. The product and general state of cultivation, and quality of manure used upon it the preceding year.

3. The quantity of manure the present season.

4. The quantity of seed used, and if Potatoes, the sort.

5. The time of sowing, weeding, and harvesting the crop, and the amount of the product ascertained by actual measurement, after the whole produce for which a premium is claimed, is harvested, and the entire expense of cultivation.

6. Of Indian Corn, the entire crop of the acre to be offered for premium, is to be shelled and measured in the presence of the claimant, who is to make oath to the truth of the statement made by the person or persons, who did harvest, shell and measure it; and to be measured between the fifteenth of November, 1832, and the first day of January, 1833.

7. At least 40 bushels of the vegetables, for which a premium is claimed, except potatoes, onions, and common turnips, are to be weighed free from dirt, and 56 pounds will be considered a bushel.

### THE BEST CULTIVATED FARMS.

| | |
|---|---|
| For the best cultivated Farm - - - | $150 00 |
| For the next best cultivated Farm - - | 100 00 |

The farm to consist of not less than 70 acres, exclusive of woodland. The owner or tenant, to entitle himself to either of the premiums, must state in writing the nature and quality of the soil; the proportions suitable for tillage, mowing, and pasturing, respectively, and especially the quantity of irrigated meadow or low land which is never tilled or ploughed.

The number of acres planted the present year with corn, potatoes, and other vegetables.

The number sowed with winter and spring grains, and other vegetables, specifying the several kinds, and the number of acres planted or sown with each.

The quantity and kind of manure used for each crop, and the times and manner of applying it.

The quantity and quality of each crop.

The number of acres mowed the present year, specifying the proportion of irrigated meadow, or low land, and the proportion which had been ploughed or tilled, and the kind of grass and quantity of hay on each.

Manner of irrigating the lands, and dressing and manuring meadow or low land, and irrigated upland, if any, and laying down tilled land to grass.

The kinds of grass seed sown, the quantity of each, the time of year, and whether sown with oats, barley, or other grain, or alone.

The number of acres of pasture; the part, if any, that had previously been ploughed; when this part was laid down, and the kinds and quantities of grass seed sown per acre.

The number of apple trees on the farm; the proportion grafted; whether planted in orchards or partly by the fences against the road; the quantity of winter apples gathered and cider made; treatment of trees, and manner of making cider.

The form and dimensions of barns, sheds, and barn-yard, and manner of collecting and making manure.

The number of oxen, cows, and young stock, horses, and sheep, kept on the farm through the year, and the quantity of butter and cheese made, distinguishing the new milk from the other cheese, and the breed of cows, whether foreign, mixed, or native.

The number of swine, and quantity of pork made.

The labor employed in carrying on the farm, and quantity of ardent spirits consumed.

As it is deemed important to ascertain the best rotation of crops, it is expected that the applicants for these premiums will state the kind of crop, if not able to state the quantity, raised on the several and respective pieces of tillage, mowing, and pasture land described in their statements, for two years next preceding the present one.

The manner of feeding his stock in the winter season; whether he gives his milch cows or oxen grain or roots of any kind, and the kind and quantity.

His treatment of calves he intends to raise; whether he lets them continue to suck, or weans them soon after born—how soon—what food he gives them, and how long he continues to feed them.

His manner of making cider and cleansing his old barrels, and the time he draws it off, if at all.

The kind of food given to his swine, and the manner in which it is prepared.

The age at which he finds it most profitable to make beef of his working oxen and good milch cows.

If it be a sheep farm, the manner he treats his sheep in the winter; whether they are housed or left out in the yard, the food given them, and the time they generally lamb.

The whole statement to be sworn to by the applicant. The Trustees to be at liberty, in all cases, before they award the premium, to visit by a committee, or such other persons as they shall appoint, the farms of the applicants, if they deem it expedient.

*N. B. Claims to be addressed to* BENJAMIN GUILD, *Esq., in Boston, (post paid) before the first day of October next; and the evidence to support them to be sent as above, on or before the first day of January,* 1833.

## EXPERIMENTS, DISCOVERIES, AND INVENTIONS.

For the experiment of turning in green crops as a manure, on a tract, not less than one acre, and proving its utility, giving a particular account in writing, under oath, of the process and the result . $20 00

For the most successful use of the Drill Plough, in the cultivation of any small grains or seeds, on a scale of not less than one acre . . . 20 00

For an effectual and satisfactory mode of extirpating the Worm that attacks the locust tree . . . 100 00

For a new, effectual and satisfactory mode of extirpating the Borer which attacks the apple tree . 50 00

For any newly invented Agricultural Implement, or machine, superior to any designed for the same use,

that shall have heretofore gained a premium, a reward not exceeding twenty dollars, according to the importance of the invention . . . . $20 00

To the person, who shall prove to the satisfaction of the Trustees, that his mode of rearing, feeding and fattening neat cattle is best . . . . . 20 00

### TREES AND LIVE HEDGES.

For the largest plantation of the White Mulberry tree, not less than two thousand plants, nor less than *three* years old, to be claimed on or before the 1st of December, 1832 . . . . . 50 00

For the greatest quantity of raw or unmanufactured silk, not less than *ten* pounds, raised by the claimant, and presented before the 1st of December, 1832 . . . . . 20 00

For the best plantation of White Oak trees, not less than one acre, nor fewer than 1000 trees per acre —raised from the acorn—not less than *three* years old, and which shall be in the most thriving state on the 1st of September, 1832 . . . . 100 00

For the best plantation of White Ash, Larch, or Yellow Locust trees, each of not less than one acre, nor fewer than 1000 trees per acre, to be raised from the seeds, and which trees not less than three years old, shall be in the most flourishing state on the 1st September, 1832 . . . 50 00

For the best Buckthorn Hedge, not less than 100 rods and which shall be in the most thriving state in 1832 . . . . . 50 00

*Claims under the two last heads, together with the proper evidence, must be delivered to* BENJAMIN GUILD, *Esq., in Boston, free of expense, on or before the first day of January*, 1833.

### FOR DOMESTIC MANUFACTURES.

For the best $\frac{10}{4}$ Woollen Blankets, not less than *ten* pairs, . . . . . $50 00

For the best Worsted Camlet or Bombazetts, not less than *sixty* yards . . . .$400 0
For the best Linen Sheeting, not less than *fifty* yards . . . . . 30 00
For the best Linen Shirting, not less than *fifty* yards . . . . . 30 00
For the best Sewing Silk, not less than *ten* pounds . 30 00

All the above must be manufactured within the state of Massachusetts. And all manufactures, when presented, must have a private mark, and any public or known mark must be completely concealed, so as not to be seen or known by the Committee, nor must the proprietors be present when they are examined. In default of either of these requisitions, the articles will not be deemed entitled to consideration or premium.

Gratuities will be given, as in former years, for specimens of useful and ornamental manufactures, of extraordinary quality, presented at the Hall for exhibition.

### PLOUGHING MATCH.

On the 17th day of October, premiums will be given to the owners and ploughmen of the three ploughs, drawn by two yoke of oxen, and to the owners and ploughmen of three ploughs drawn by one yoke of oxen, which shall be adjudged by a competent Committee, to have performed the *best work* with the *least expense of labor*, not exceeding half an acre to each plough. Entries may be made of the names of competitors until themorning of the 17th. Preference will be given to those who enter first —but if, on calling the list at the hour appointed, precisely, those first named do not appear, the next in order will be preferred. There will be two Committees, of three persons each—one to be judge of the ploughing by double teams, the other of the ploughing by single teams;—the latter to have assigned to them a part of the field distinct from that of the double teams.

Premiums as follows, [being the same for the double and single teams:—]

| | | |
|---|---|---|
| First Plough, $15 | Second Plough, $10 | Third Plough, $6 |
| Ploughman, 8 | Ploughman, 5 | Ploughman, 3 |
| Driver, 4 | Driver, 3 | Driver, 2 |

In each case, if there be no driver, both sums to be awarded to the ploughman.

To the plough which shall be adjudged best of all those used at the ploughing match . . . $10 00

Those who intend to contend for these prizes, must give notice in writing to the person who shall be appointed for that purpose, in Brighton, whose name will be seasonably published. The competitors will be considered as agreeing to follow such rules and regulations as may be prescribed by the Committees. The ploughs to be ready to start at 9 o'clock, A. M.

### RULES AND REGULATIONS.

Animals may be offered for a premium at Brighton, notwithstanding they have received a premium from a County Agricultural Society.

All Manufactures and Implements, and also the Butter and Cheese to be offered for a premium at the Cattle Show, must be brought to the Society's Hall in Brighton, and entered on Monday, the 15th day of October next, to be examined on the 16th.

All entries of animals for the pens, or as working cattle, must be made before Tuesday evening, the 16th.

The Ploughing Matches will commence on Wednesday morning, at half past nine o'clock, *precisely*.

Trial of Working Oxen at eleven o'clock, precisely.

The public sales of Manufactures and Animals at twelve o'clock.

The applicants will be held to a rigid compliance with the rule relative to entries, as well as the other rules prescribed.

Besides such animals as may have been offered for premiums, any others that are considered as possessing fine qualities

will be admitted for sale. And for all animals or manufactures, that are intended to be sold, notice must be given to the Secretary, before ten o'clock of the 17th. Auctioneers will be provided by the Trustees.

It is understood, that whenever, merely from want of competition, any of the claimants may be considered entitled to the premium, under a literal construction; yet if, in the opinion of the judges, the object so offered is not deserving of any reward, the judges shall have a right to reject such claims. Persons to whom premiums shall be awarded, may, at their option, have an article of plate, with suitable inscriptions, in lieu of money.

In cases where pecuniary premiums are offered, the Trustees may, having regard to the circumstances of the competitors, award either the Society's gold or silver medals, in lieu of the pecuniary premium annexed to the several articles.

That if any competitor for any of the Society's premiums shall be discovered to have used any disingenuous measures, by which the objects of the Society have been defeated, such person shall not only forfeit the premium which may have been awarded to him, but be rendered incapable of being ever after a competitor for any of the Society's premiums.

*Time of paying Premiums.*—The Treasurer will attend at the Hall at 5 o'clock, P. M. on the day of the Show, and on the next day from 9, A. M., till 12, M., to pay all premiums awarded.

All premiums not demanded within six months after they shall have been awarded, shall be deemed to have been generously given to aid the funds of the Society.

By order of the Trustees,

JOHN LOWELL,
G. PARSONS,
E. H. DERBY,
J. HEARD, JR.
BENJ. GUILD,
} *Committee.*

*January*, 1832.